THE 'CLASS OF 2000' TWO YEARS AFTER GRADUATION

RESULTS FROM THE 2002 ALBERTA UNIVERSITIES AND UNIVERSITY COLLEGES' GRADUATE EMPLOYMENT SURVEY

Prepared for
Alberta Learning and
Alberta's Universities and University Colleges

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November 2002

105-02308/

Acknowledgements

The 2002 *Alberta Universities and University Colleges' Graduate Employment Survey* was conducted by a steering committee of representatives from Alberta Learning and the province's four universities and four university colleges. The costs of the 2002 survey and of this report were shared by Alberta Learning and the eight post-secondary institutions involved in this study.

Data collection was conducted by the Population Research Laboratory (PRL), a survey research institute in the Department of Sociology at the University of Alberta. I would like to thank the PRL research team for their contribution to all phases of this research initiative. Appreciation is also extended to the administrative and technical personnel at the post-secondary institutions for preparing the student data bases. The invaluable research assistance and editorial comments from Jennifer de Peuter are gratefully acknowledged.

The study would not have been possible without the willing participation of the 7,566 university and university college graduates who were interviewed in the 2002 survey.

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STUDY HIGHLIGHTS

- This survey involved telephone interviews with 7,566 individuals who graduated from Alberta's four universities and four university colleges in 2000.
- Almost half (46%) of graduates had at least one parent who had completed a university degree.
- Two years after graduating, 73% of employed graduates agreed that their program was worth the financial cost.
- Satisfaction with program of study was higher among 2002 survey respondents than among 2000 respondents.
- A very high proportion (97.2) of the *class of 2000* were active members of the labour market and only 4.2 were unemployed.
- Rates of non-standard employment were stable between 2000 and 2002, although rates of temporary jobs increased slightly (from 16% to 19%).
- The occupational distribution of *2000 graduates* was very much the same as *1998 graduates*, with the majority (63%) working in professional jobs in both surveys.
- In 2002, employed non-student graduates earned a median yearly income from all jobs, before deductions, of $41,000 (mean of $46,346).
- Three quarters of graduates reported a close overall fit between their jobs and their program of study.
- Just over one-quarter (26%) felt over-qualified for their job and half felt they earned less than they deserved.
- One-quarter of the 2002 total sample were current students, up from 20% in 2000.
- Most returning students were enrolled in graduate programs (44%).
- Compared to current non-students, current students enrolled in graduate or professional programs were more satisfied with most aspects of their prior education, were more likely to be currently working in professional occupations, and were equally unlikely to report negative evaluations of their labour market experience.
- Compared to non-students and current graduate / professional students, students enrolled in community colleges, technical institutes, or undergraduate university programs were much less likely to be satisfied with their prior education, and more likely to be working in lower-level jobs and earning lower incomes and to report negative evaluations of their labour market experience.
- One in five sample members resided in a rural area (with a population of less than 10,000) before participating in the post-secondary system. About the same proportion (21%) originated from a small urban area with a population size between 10,000 and 74,999.
- Rural-origin respondents were more likely to be female, younger and married, but less likely to be a visible minority and to have parent(s) with a university degree.
- Almost half (49%) of rural-origin graduates were residing in an urban centre two years after graduating.

EXECUTIVE SUMMARY

A. INTRODUCTION

- The *2002 Alberta Universities and University Colleges' Graduate Employment Survey* was designed to collect information on the employment and educational experiences of members of the graduating *class of 2000* two years after completing their programs.
- Telephone interviews were conducted with 7,566 individuals who graduated from the province's four universities and four of the province's university colleges in the year 2000. A similar study of the *class of 1998* conducted in 2000 provided comparison data.
- This report provides comparisons across 21 fields of study where students from the four universities and four university colleges are grouped into a single set of categories based on the content of their program of study. Total sample results, however, are the primary focus of this Executive Summary.

B. RESEARCH DESIGN

- Telephone interviews were conducted between March and May of 2002. A respectable response rate of 60.9% was obtained.
- The province's university sector accounts for 96% of the total sample, with the University of Alberta and the University of Calgary comprising 82% of the total sample.
- *Undergraduate arts and science* graduates made up 38% of the total sample, *Undergraduate professional* programs 44%, 2.5% completed degrees in law or medicine / dentistry, and 15% received a master's or a Ph.D. degree.

B. SAMPLE CHARACTERISTICS

- Female respondents made up 60% of the total sample and the majority (70%) were less than 30 years of age.
- Forty-four percent of the sample were married (common law) and 22% were living with dependents.
- Seventeen percent of the sample identified themselves as members of a visible minority group, 2% were of aboriginal origin, and 2% were disabled.
- Forty-six percent of graduates' parent(s) had completed a university degree.

C. EDUCATION ANALYSES AND SATISFACTION LEVELS

- Over-time comparisons with the 2000 survey revealed that women graduates continue to dominate traditionally-female programs (e.g. education, nursing, and social work) and are still underrepresented in most traditionally-male dominated programs (e.g. math / physical sciences, engineering, and M.B.A programs). The largest increases between the 2000 and 2002 surveys in female representation occurred in medicine / dentistry (from 43% to 51%) and social work (from 82% to 94%).
- Gender-based age differences within fields of study are due, in part, to the fact that women tend to enter into the post-secondary system at a younger age than men.

- Visible minorities were the most highly represented in math/physical sciences, biological sciences, business/commerce, engineering, medicine/dentistry, and M.Sc./M.Eng. programs.
- For the most part, visible minority representation increased in fields of study where they were already more highly represented.
- Medicine/dentistry graduates were considerably more likely (71%), than on average (46%), to have at least one parent with a university degree. Nursing and social work and M.Ed. graduates were less likely to come from a high education background.
- Fifty-five percent of the sample FIRST applied for post-secondary studies before leaving high school.
- Seventy-three percent of working graduates agreed that their program was "worth the financial cost to you and your family."
- 2002 employment respondents were more satisfied than 2000 employment respondents with their post-secondary program.
- 2002 graduate employment respondents were equally satisfied as 2001 student satisfaction survey respondents for most measures of satisfaction. They were less likely to report, however, that their program improved their chances of a good income (63% compared to 72%).

D. EMPLOYMENT OUTCOMES

- The analysis of employment outcomes includes graduates who had completely exited from the post-secondary system (current non-students). By removing current students, who tend to work in a transitory labour market, typically holding 'student jobs', we present a more appropriate measure of how successfully Alberta university and university college graduates have been able to transport their degrees into labour market rewards.
- The 2002 sample of current non-students had a very high labour force participation rate of 97.2% (up from 96.3% in the 2000 survey), and a very low unemployment rate of 4.2% (compared to 4.0% in the 2000 survey).
- For the most part, rates of non-standard employment were stable between 2000 and 2002. The one exception was a small over-time increase in temporary employment from 16% in 2000 to 19% in 2002.
- Education services, healthcare / social assistance services, and professional, scientific, and technical services were the most common industry locations, accounting for 60% of employment by industry sector.
- The majority (63%) of employed non-students were working in professional occupations and 11% had obtained management jobs. These are virtually the same occupational distributions as the *class of 1998*.
- The *class of 2000* earned a median yearly income from all jobs, before deductions, of $41,000 (mean of $46,346).
- The *class of 2000* earned a median yearly income from their main job of $40,000 compared to $38,400 earned by the *class of 1998*.
- *2000 graduates* were slightly more likely than *1998 graduates* to be receiving fringe benefits in their jobs.
- Job satisfaction levels were virtually the same between 2002 and 2000 respondents -- 77% of 2002 survey respondents were satisfied with their job overall compared to 76% of 2000 respondents.

E. EDUCATION-TO-WORKFORCE TRANSITIONS

- More than four in five (83%) of employed non-students indicated that, when first enrolling in their program of study, it was important that they acquire the skills needed for a particular job.
- Three-quarters of non-students reported that their job and program of study were related "overall", 73% indicated that their job and program of study were related in terms of subject-area knowledge, and 83% reported job-program fit in terms of general skills and abilities.
- Seven in ten non-student graduates were working in a job with a university-degree requirement, 26% indicated that they felt overqualified for their job, and half felt they earned less than they deserved in their main job.

F. CURRENT STUDENT ANALYSES

- One-quarter of the total 2002 sample were currently enrolled in a post-secondary program for credit, up from one in five among 2000 survey respondents.
- While very few (5%) returning students were enrolled in a technical institute or community college, 27% were in a university undergraduate program, 42% in a university graduate program, and 26% in a professional degree or certification program.
- Similarly, while only 7% of returning students were enrolled in an *undergraduate arts & science* program, 33% were in *undergraduate professional* programs, 16% in *professional 2nd degree* programs, and 44% in *graduate degree* programs.
- Current students enrolled in graduate or professional programs were slightly more satisfied than current non-students with their prior education. The only exception to this pattern was for the program-of-study benefit about the improved chances of obtaining a good income. In contrast, students enrolled in community colleges, technical institutes, or university undergraduate programs were less likely to be satisfied with their program of study than other respondents.
- Current non-students were much more likely than current students to be active members of the labour force, to be working as managers, and to earn higher incomes, and they were less likely to be unemployed or to be working in temporary or part-time jobs. But current graduate / professional students were more likely to be working in professional occupations than non-students (69% compared to 64%).
- Current non-students and current graduate / professional students were equally unlikely to provide negative evaluations of their employment experience. Most notable of these was the small proportion of current graduate / professional students who indicated that their job was not related to their program of study (24%). In contrast, other current students evaluated their labour market experience much more negatively (e.g. 62% indicated that their job was not related to their program of study and 55% felt they were overqualified for their job).

G. EDUCATION AND WORK PATTERNS BY RURAL/URBAN ORIGINS OF GRADUATES

- In the sample of *2000 graduates*, one in five originated from a rural area with a population size of less than 10,000 and 22% were from small urban regions with a population size between 10,000 and 74,999.
- Rural-origin graduates were more likely to be female, younger, and married than other graduates. They were less likely, however, to be a member of a visible minority group and to have at least one parent with a university degree. Rural-origin graduates were the most highly represented in the M.Ed. field-of-study category.
- When interviewed in the spring of 2002, almost half (49%) of rural-origin graduates resided in a large urban centre with a population size of 75,000 or more. Rural-origin graduates who were current students were more likely to be living in large urban centres than rural-origin graduates who were working (63% compared to 46%). Rural-origin graduates were less likely to be currently enrolled in a post-secondary program for credit.
- Although rural-origin graduates were slightly more likely to report that their program of study improved their chances of a good income (despite that they earned slightly lower incomes), very few consistent differences were found in program satisfaction between urban and rural graduates that could not be explained by differences in field of study and type of institution.
- Very few rural/urban differences were found in terms of employment experiences. Differences that were found include a marginally lower unemployment rate among rural-origin graduates and higher representation in education service industries and in professional occupations in the social sciences, education or government.

A. INTRODUCTION

This report presents findings from the *2002 Alberta Universities and University Colleges' Graduate Employment Outcomes Survey*, a telephone survey of 7,566 Alberta graduates two years after program completion. This survey of the *class of 2000* is the third in a series of employment outcomes' research designed to collect information on the post-graduation labour-market and educational experiences of the province's graduates. The study is part of an on-going collaboration between Alberta Learning and the province's post-secondary institutions to examine Alberta's educational performance.

The first employment study, conducted in 1997, surveyed students who graduated in *1994* in an undergraduate program from one of the province's four universities (University of Alberta, University of Calgary, University of Lethbridge, and Athabasca University).[1] In 2000, the employment study was conducted again by surveying graduates from the *class of 1998*, but this time including graduate students and four of the province's university colleges (Concordia University College of Alberta, The King's University College, Augustana University College, and Canadian University College).[2]

In addition to the employment surveys, the broad research initiative includes student satisfaction surveys which are completed at the time of graduation and in alternate years to the employment surveys. The following chart outlines the type of survey and survey population completed in the initiative to date:

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[1] See Krahn, Harvey and Graham S. Lowe (1998) The 1997 Alberta Graduate Survey: Labour Market and Educational Experiences of 1994 Graduates. Population Research Laboratory, University of Alberta.

[2] A fifth university college, Nazarene University College, also participated in the 2000 study. Graduates from this institution, however, were not included in the current 2002 survey. For the 2000 study results, see Krahn, Harvey, and Marianne Sorensen (2000) Labour Market and Educational Experiences of 1998 Graduates: Results from the 2000 Alberta Universities and University Colleges' Graduate Employment Survey. Alberta Learning.

Chart 1: Satisfaction and Employment Outcomes Surveys			
Year of Survey	**Type of Survey**	**Graduating Class Surveyed**	**Institutions Surveyed**
2002	**Employment Outcomes**	Class of 2000	Four universities and four university colleges
2001	Student Satisfaction	Class of 2001	Four universities and five university colleges
2000	**Employment Outcomes**	Class of 1998	Four universities and five university colleges
1999	Student Satisfaction	Class of 1999	Four universities and four university colleges
1997	**Employment Outcomes**	Class of 1994	Four universities (undergraduates only)

Since both survey types (employment outcomes and satisfaction surveys) contain questions about students' satisfaction with their post-secondary experience, comparisons between four of the most recent surveys (conducted in 1999, 2000, 2001 and 2002) are presented in this report (*Section D.4*).[3]

In addition, the two most recent employment surveys, conducted in 2000 and 2002, respectively, contain measures of labour market experience such as labour force participation rates, unemployment rates, occupation and income (*Section E*), indicators of the ease (or difficulty) graduates (current non-students) experience in moving from the educational system into the labour market (*Section F*), and questions about the continuing educational activity of some graduates (*Section G*). The standardized questions allow us to make over-time comparisons between the *class of 2000* and the *class of 1998* for these three broad areas of investigation.

The current 2002 employment survey also contains three new questions added by Alberta Learning in an attempt to investigate specific areas of policy concern. These include the population size of the location from which graduates originated prior to their participation in the post-secondary system (*Section H*), graduates parents' level of educational attainment (*Section*

C.3), and the time when respondents first applied for post-secondary studies (*Section D.2*). At the request of Alberta Learning these areas of investigation took priority in this analysis and report.

The major objective of this study is to provide a better understanding of graduates' transition into the labour market and their further education. The report is designed to inform policy decision-making by providing an overall analytic assessment of Alberta's university and university college system. To analyze the entire system, the steering committee (made up of representatives from Alberta Learning and the participating post-secondary institutions) choose to adopt a 'field of study' approach. Committee members recognized the value of using a standardized approach that could accommodate the variety of programs and degrees offered across all institutions. In analyzing the results of the employment outcomes survey by fields of study, the province is able to gauge the system as a whole as well as observe program variation in employment outcomes. Hence, this report provides comparisons across 21 fields of study where students from the four universities and four university colleges are grouped into a single set of categories based on the content of their program of study (e.g., all fine and performing arts students are classified into one field of study group and all engineering students comprise one group). To permit a broader assessment of program areas, the 21 fields of study are further classified into larger groups representing 4 broad levels of education (*undergraduate arts & science, undergraduate professional degrees, professional 2nd degrees*, and *graduate degrees*).

The steering committee also made the decision to not directly compare results between each university / university college. Hence, comparisons are not made between the participating post-secondary institutions. Instead, separate reports have been written for each university and university college containing the results for their own portion of the data.

The analysis of the employment outcomes of graduates (*Section E*) is limited to graduates who were not currently participating in the post-secondary system when interviewed. By removing current students, who typically occupy transitory locations in the labour market, from the

[3] Comparisons with the results from the first survey of 1994 graduates conducted in 1997 are not made in this report since the earlier survey only included undergraduate students from the province's four universities.

employment analysis, we are better able to gauge the true market value of educational credentials.

The following section of the report (*Section B*), describes the research methods used in this study, including questionnaire design, data collection procedures and response rates, while *Section C* profiles the demographic characteristics of the *class of 2000*. *Appendix 1* contains a copy of the survey instrument used in the telephone interviews and *Appendix 2* profiles the many different programs used to develop the 'field of study' classification system. *Appendix 3* contains a set of supplementary tables that are discussed only in passing in the text of the report.

B. RESEARCH DESIGN

B.1 Questionnaire Design

The questionnaire used in this employment survey is designed primarily to collect information on graduates' employment experiences two years after completing their program of study (see *Appendix 1: Survey Instrument*). Results for a set of core questions (Key Performance Indicators) are provided to Alberta Learning by each participating institution. Specifically, each institution reports on:

- Labour force and unemployment rates
- The percentage of graduates in full-time and part-time jobs
- The average monthly salaries of full-time employed graduates
- The percentage of graduates employed in jobs related to their program of study
- The percentage of graduates who continued their post-secondary education after graduating

Other labour-market measures in the survey instrument include:

- The kinds of jobs and industries that graduates are working in
- Whether graduates are self-employed or are working in temporary jobs or more than one job
- The benefits provided in graduates' main jobs (such as dental plans or retirement plans)
- Levels of satisfaction with various aspects of graduates' jobs
- The fit between graduates' program of study and their subsequent occupations
- Objective and subjective measures of under-employment
- The extent to which specific skills and abilities are used by graduates in their jobs

Results for the KPI questions and the remaining labour market measures are presented for the 2002 survey and the comparable 2000 survey in *Section E: Employment Outcomes* and *Section F: Education-to-Workforce Transitions.*

As well, the survey instrument asks seven questions concerning graduates' satisfaction with their post-secondary program. Six of these questions have been included in all four surveys to date[4], thus permitting an assessment of over-time changes in satisfaction levels (*Section D.4*). Aside

[4] A seventh satisfaction question asking about the financial worth of graduates' education was added to the most recent 2001 satisfaction and 2002 employment surveys.

from a few minor wording modifications, the major difference between the 2002 and 2000 survey is that five new questions were added to the *2002 Alberta Universities and University Colleges' Graduate Employment Survey*. First, an open-ended question was added by the steering committee to complement an existing question about the specific type of post-secondary program enrolled in by current students (see *Appendix 1: Survey Instrument*, questions B6A and B6B). Results from this question permit a more sophisticated analysis of the continuing post-secondary educational experiences of graduates (*Section G*). At the end of the survey, respondents were also asked the question "Is there anything about your education or work experience that you would like to add, for example, any information about your experience that has not been covered in this interview?" (question E1). Verbatim responses to this question have been provided to Alberta Learning and the eight institutions, but are not discussed in this report.

Three of the five new questions were provided by Alberta Learning to help them investigate policy-related areas of interest. To gain information on the rural and urban origins of graduates, survey respondents were asked to indicate the population size of the "village, town, or city you lived in when you FIRST applied for post-secondary studies?" (question D.8). *Section H* presents the results from a fairly extensive analysis on the rural/urban origins of sample members.

A second question added by Alberta Learning asked survey respondents about their parents' highest level of educational attainment (question D10), thus providing an indication of the influence of educational background on the educational and employment experiences of graduates (see Figures 5, 6 and 12). To find out if graduates from different fields of study begin their post-secondary experience at different times, a third new question asked about the time graduates first applied for post-secondary studies (question D9). *Section D.2* presents the results for this question cross-tabulated with field of study and parent's level of education.

B.2 Data Collection

The Population Research Laboratory (PRL), a survey research institute in the Department of Sociology at the University of Alberta, was awarded the data collection contract by the steering committee in February, 2002.[5] To ensure the research instrument worked properly on their computer-assisted telephone interviewing (CATI) system and to confirm that respondents would appropriately and consistently interpret and answer questions, the PRL pre-tested the survey instrument on 21 students from seven of the eight participating institutions. Results of the pre-test led to minor modifications of a few questions.

Telephone interviews spanned a two-month period between March 19th and May 24th 2002. The average time to complete the survey was 12.2 minutes. An average of six contact attempts were made for each potential respondent and an average of five attempts were made for each completed interview.

Since the target population consisted of individuals who had graduated two years earlier (and in a few cases even earlier), the PRL employed several techniques to locate individuals whose contact information was no longer applicable (i.e. since they had moved). These methods involved the use of university and university/college alumni lists, tracking through telephone contact with friends and relatives, Internet searches, and specialized data base searches by RSTS Inc.

B.3 Response Rates

In total, 12,925 graduate records were provided to the PRL from the eight post-secondary institutions participating in the study. Since 504 of the records were for graduates currently living outside of North America[6] or who were otherwise not qualified for the study (e.g. they did not graduate), the 'cleaned' sampling frame consists of 12,421 records of graduates. Most of

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[5] Most of the information provided in this section is from Methodology Report: 2002 Alberta Universities and University Colleges Graduate Employment Outcomes Survey, Population Research Laboratory, The University of Alberta. For more details of the methods used to collect and compile the data, please refer to this report.

[6] For all surveys conducted in this research initiative, graduates residing outside of North America were not interviewed. This decision is based on the potentially high costs involved in locating non-North American graduates and on the analysis problems associated with not being able to control on labour market differences in many different economies.

these graduates (81%) received their degrees in the spring of *2000*, while a minority (19%) convocated in the fall of 1999.

A total of 7,566 telephone interviews were completed for a response rate of 60.9%.[7] This is a very respectable response rate considering that the institutions do not always have up-to-date contact information, that two years had passed since these individuals had graduated from their post-secondary institutions, and that young, well-educated individuals are often the hardest to locate and interview. The comparable response rate in the 2000 employment survey was 60.0%. In the 2002 survey, only 9% of the 4,855 potential respondents who were not interviewed refused to participate (compared to 8% for the 2000 survey of *1998 graduates*).

Table 1 presents the sampling frame size, the number of completed interviews and the response rate for each institution. While Athabasca University obtained a response rate of just over 70%, rates for the remaining three universities each hovered around 60%. The response rates for the university colleges were slightly higher, averaging 66.5%. These institutional differences in rates of response (ranging from 60.1% to 70.8%) are partly because the PRL put more effort into completing interviews with graduates from smaller institutions to ensure that their final samples included enough respondents to provide reliable estimates. The slightly lower response rates among the universities no doubt reflects the fact that virtually all graduate students in the survey, who tend to be more likely to move after graduation and are therefore more difficult to locate, came from the larger universities. The exception of the relatively high response rate among Athabasca University graduates is likely because it is a distance education institution that relies on being able to contact students (often by phone), thus making their contact information more up-to-date and their graduates easier to contact.

[7] If the total original sampling frame of 12,925 records is used as the denominator in the calculation, the 'non-cleaned' response rate is 58.5%.

Table 1: Response Rate by Institution

Institution	Sample Provided[1]	Completed Interviews	Response Rate
TOTAL	**12421**	**7566**	**61**
All Universities	***11940***	***7246***	***61***
University of Alberta	5823	3500	60
University of Calgary	4470	2693	60
University of Lethbridge	1134	690	61
Athabasca University	513	363	71
All University Colleges	***481***	***320***	***67***
Concordia University College	219	144	66
Augustana University College	124	81	65
The King's University College	99	70	71
Canadian University College	39	25	64

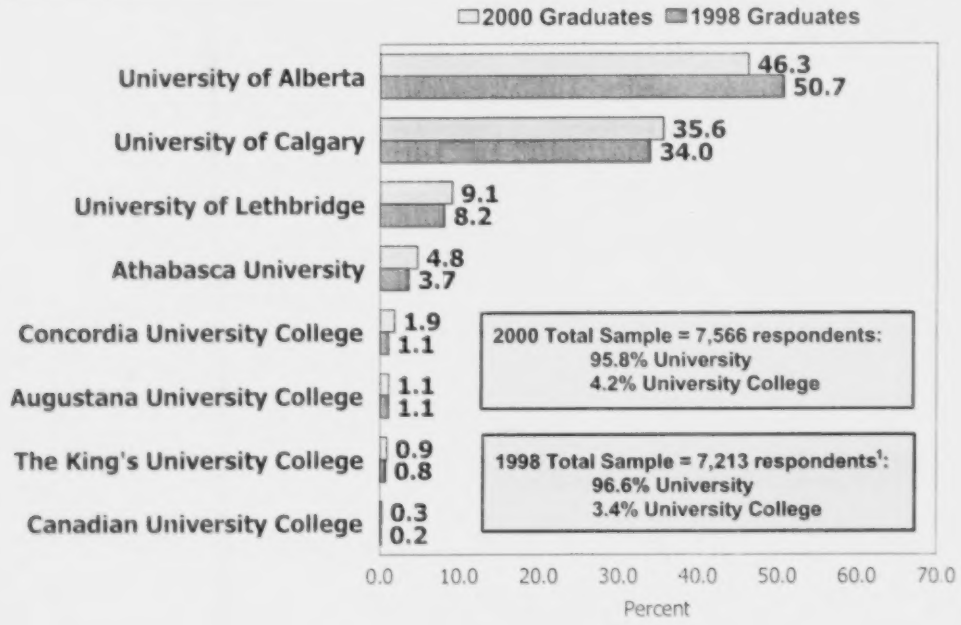
Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Based on lists of Fall 1999 and Spring 2000 graduates provided by the institutions, excluding duplicate records, graduates with missing contact information or non-North American addresses, and respondents used in the survey pretest.

B.4 Sub-sample Sizes

Figure 1 below reveals that the province's university sector accounts for 96% of the total sample, with the University of Alberta and the University of Calgary comprising most (86%) of the university respondents and 82% of the total sample. These institutional and institutional sector sample sizes are very similar to the sample of *1998 graduates* surveyed in 2000. Hence, results for both surveys are heavily shaped by the university sector in general, and by the University of Calgary and the University of Alberta, in particular.

Figure 1: Sample Size by Institution
2000 and 1998 Graduates Compared

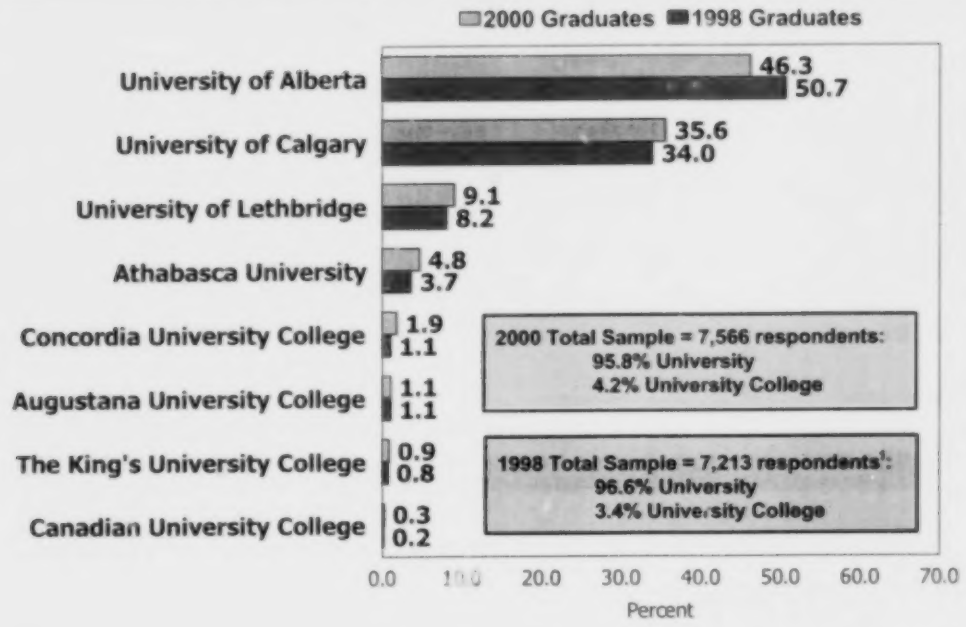


Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey
[1] The total 1998 sample of graduates includes 14 respondents from Nazarene University College.

As noted in the *Introduction*, 'field of study' is the core classification scheme used in the analysis of the province's university and university college system. Figure 2 presents the 'field of study' categories and the four broader 'degree types' used throughout this report (*Appendix 2* outlines the specific programs included in each of the 21 field of study categories). Of the 7,566 students participating in this study, 56 (0.7%) were not classified in the field of study scheme because sufficiently-detailed information was not provided for these cases. Results for these 56 graduates, however, are included in calculations of the totals presented in all tables and figures throughout the report.

Undergraduate arts and science graduates make up 38% of the total sample, with most (14%) receiving a degree in the social sciences in *2000* (Figure 2). Graduates completing *Undergraduate professional* programs comprise a slightly greater proportion (44%), including

Figure 1: Sample Size by Institution
2000 and 1998 Graduates Compared



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey
[1] The total 1998 sample of graduates includes 14 respondents from Nazarene University College.

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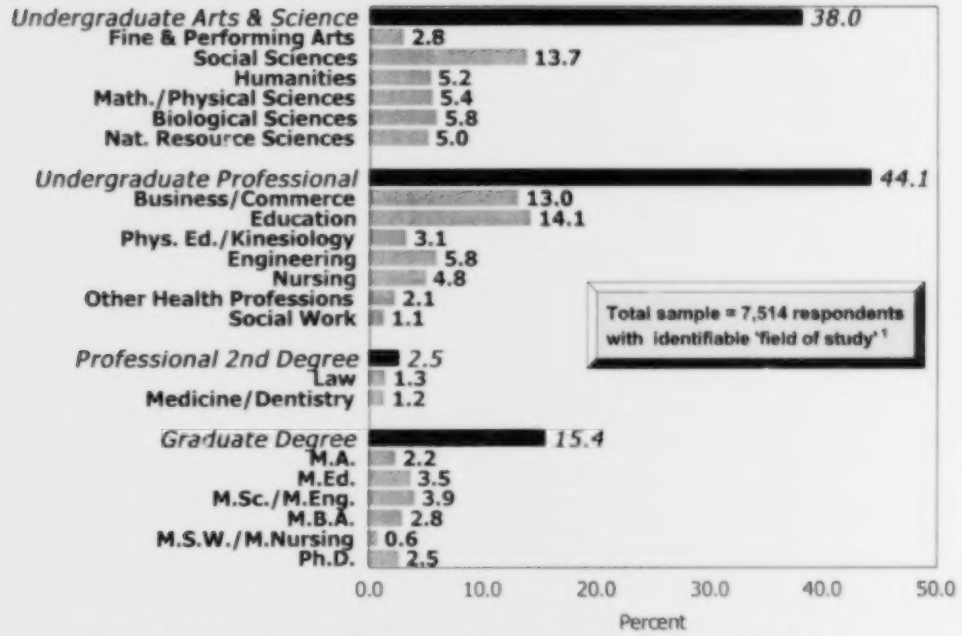
Undergraduate arts and science graduates make up 38% of the total sample, with most (14%) receiving a degree in the social sciences in *2000* (Figure 2). Graduates completing *Undergraduate professional* programs comprise a slightly greater proportion (44%), including

27% who graduated in business/commerce or education. A small minority of graduates (2.5%) completed degrees in law or medicine/dentistry, while 15% received a master's or a Ph.D. degree when graduating in *2000*.

Figure 2: Sample Composition by Field of Study



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] 52 cases excluded because information needed to determine 'field of study' was not provided. Results for these graduates are included in all total sample results.

Table 2 provides a breakdown of the sample by institution and by field of study. Among the many numbers presented in this table, of note is that all *professional 2nd degree* and *graduate degree* students are from one of the province's four universities. In contrast, the university college sector is largely limited to *undergraduate arts and science* programs. The program differences between institutional sectors are important to keep in mind when interpreting field of study results. Hence, not only are the results heavily weighted by the university sector as discussed above, but the findings for *professional 2nd degree* and *graduate degree* students are a reflection solely of the university sector of Alberta's post-secondary system.

Table 2: Institution by Field of Study

Field of Study	Percent[1]								
	U of Alberta	U of Calgary	U of Lethbridge	Athabasca U.	Concordia U.C.	Augustana U.C.	King's U.C.	Canadian U.C.	(N)
TOTAL	**46**	**36**	**9**	**5**	**2**	**1**	**1**	**<1**	**7514**
Undergraduate Arts & Science	***42***	***38***	***10***	***1***	***4***	***2***	***2***	***1***	***2852***
Fine & Performing Arts	40	28	22	--	2	6	3	--	214
Social Sciences	33	47	8	3	5	2	3	--	1031
Humanities	30	43	10	2	8	4	2	3	392
Math/Physical Sciences	45	41	7	1	2	3	1	--	405
Biological Sciences	55	28	9	--	1	4	2	1	433
Natural Resource Sciences	61	26	10	--	1	<1	2	--	377
Undergraduate Professional	***49***	***33***	***11***	***5***	***1***	***<1***	***<1***	***<1***	***3312***
Business/Commerce	34	28	25	13	--	--	<1	<1	980
Education	55	32	6	2	4	--	1	1	1058
Phys.Ed/Kinesiology	41	45	10	--	--	4	--	--	230
Engineering	58	42	--	--	--	--	--	--	435
Nursing	57	29	7	7	--	--	--	--	363
Other Health Professions	100	--	--	--	--	--	--	--	160
Social Work	--	94	6	--	--	--	--	--	86
Professional 2nd Degree	***64***	***36***	***--***	***--***	***--***	***--***	***--***	***--***	***191***
Law	65	35	--	--	--	--	--	--	100
Medicine/Dentistry	64	36	--	--	--	--	--	--	91
Graduate Degree	***48***	***38***	***4***	***10***	***--***	***--***	***--***	***--***	***1159***
M.A.	41	58	1	--	--	--	--	--	165
M.Ed.	50	25	16	9	--	--	--	--	260
M.Sc./M.Eng.	59	40	1	--	--	--	--	--	294
M.B.A.	24	34	--	42	--	--	--	--	211
M.S.W./M.Nursing	21	80	--	--	--	--	--	--	44
Ph.D.	69	31	--	--	--	--	--	--	185

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Categories with less than 15 cases reporting are not presented, but are included in calculation of the totals.

C. SAMPLE CHARACTERISTICS

C.1 Socio-demographic Characteristics of Graduates

Figure 3 presents the socio-demographic characteristics of graduates for both the *class of 2000* who were interviewed in 2002 and the *class of 1998* who were interviewed in 2000. About the same proportions of graduates in both studies were female (60% and 61% in 2002 and 2000, respectively). While the same proportions of graduates from each survey were over 29 years of age at the time they were interviewed (30%), a slightly greater proportion of *2000 graduates* were less than 26 years of age (43% among *2000 graduates* compared to 40% among *1998 graduates*). The mean age for both survey samples was 29 years, suggesting that the age differences between surveys, on average, is minimal.

Just over two in every five graduates from both samples were married or common law and one in five (22%) reported having dependent children or adults living with them. Seventeen percent of the sample of *2000 graduates* identified themselves as a member of a visible minority, up slightly from the 2000 survey (15%). Only 2% of the total sample of *2000 graduates* (3% of *1998 graduates*) indicated they were of aboriginal origin[8] and the same proportion reported having a disability that "may disadvantage you in employment" (2%).

[8] This figure compares to 6.1% of Alberta's total population who are aboriginal.

Figure 3: Socio-demographic Characteristics 2000 and 1998 Graduates Compared

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] 'Yes' responses to the question "Do you consider yourself to have a disability that may disadvantage you in the labour market?"

C.2 Rural/Urban Origins and Current Rural/Urban Location of Graduates

As mentioned in *Section B.1*, sample members were asked a new question in the 2002 employment survey about the population size of their location when first applying for post-secondary studies (see *Appendix 1*, Question D8). To make comparisons between graduates from rural and urban origins, results from this question have been categorized into three groups as follows:

- Rural (graduates from a population size of less than 10,000)
- Small Urban (graduates from a population size between 10,000 and 74,999)
- Large Urban (graduates from a population size of 75,000 or more)

Using the same three groups of *rural*, *small urban*, and *large urban*, a second variable was constructed to classify graduates' current location. This variable was derived from current area code and phone exchange numbers of graduates, but only for individuals residing in the province

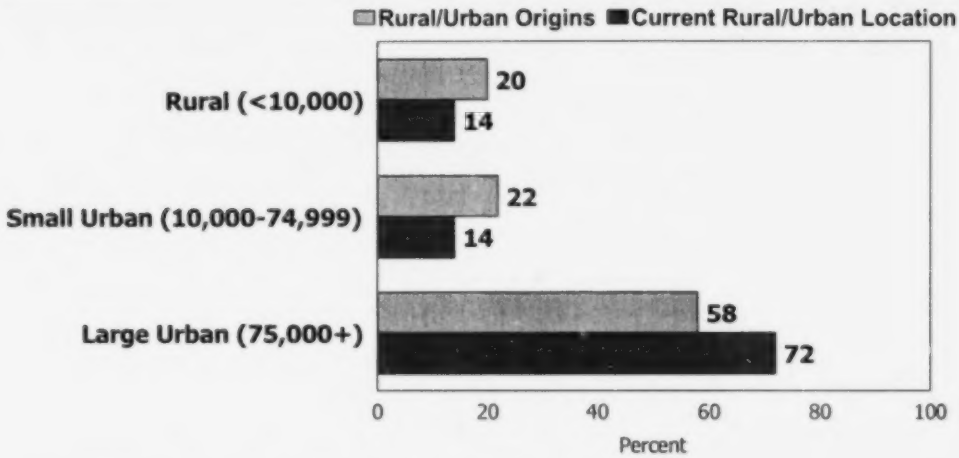
of Alberta. Hence, while the rural/urban origin of graduates may include individuals who resided outside of the province of Alberta, current rural/urban location is limited to graduates currently residing inside the province.

Figure 4 provides the proportions of graduates originating or currently residing in rural, small urban, and large urban locations (a much more detailed analyses of the rural/urban origins of graduates is presented later on in *Section H* of the report). One in five graduates originated from a rural area containing a population of less than 10,000 at the time when they first applied for post-secondary studies. About the same proportion came from a small urban region with a population size between 10,000 and 74,999. The majority (58%) resided in a large urban centre with a population of at least 75,000 when first applying for post-secondary studies.[9]

An even greater majority (72%) resided in large urban centers at the time when they were interviewed for this study (current rural/urban location). These comparative findings suggest that at least some of the graduates migrated from rural or small urban regions to large urban centres. The more detailed rural/urban analysis presented in *Section H* addresses the question of the relative influence of participating in either the labour market or further education on the migration patterns of graduates.

[9] Direct comparisons between these rural/urban distributions and the province as a whole are difficult to make because of different definitions used for 'rural' residents. However, 12% of Albertans reside in non-metro-adjacent rural areas (Think Rural, *1997*. Report of the Standing Committee on Natural Resources.) Recent research has shown that geographic distance to post-secondary institutions often serves as a barrier to participation in university (Frenette, Marc, 2002, Too far to go on? Distance to School and University Participation, Statistics Canada, Catalogue No. 11F0019MIE - No. 191.

Figure 4: Rural/Urban Origins and Current Rural/Urban Location[1] of Graduates



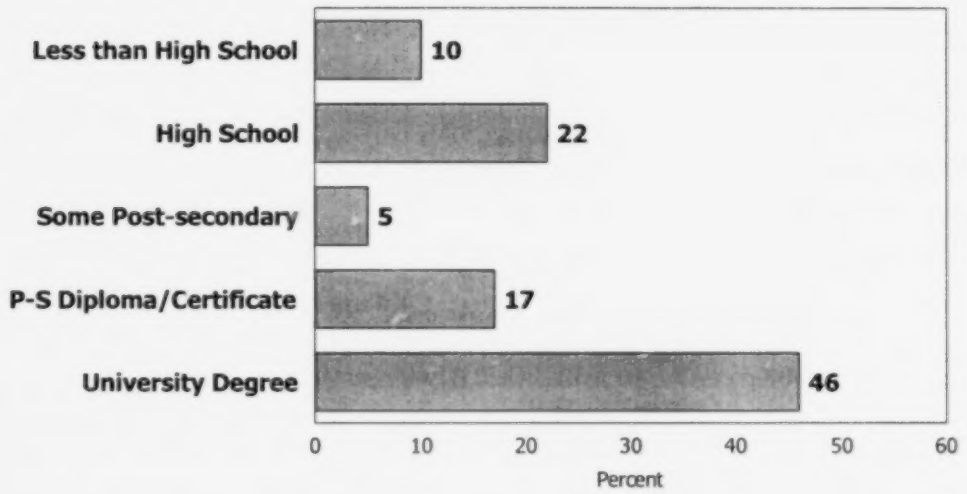
Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] *Rural/Urban Origins* are based on responses to the question asking about the population size of graduates' location when first applying for post-secondary studies (n=7430) and includes individuals who reside outside of the province of Alberta. *Current Rural/Urban Location* is derived from graduates' area code and exchange for cases with such available data (n=6571) and is limited to graduates currently residing in the province of Alberta.

C.3 Parents' Highest Level of Educational Attainment

One of the new questions in the 2002 survey asked respondents to indicate the highest level of education reached by either of their parents (or guardians). Results for this question (presented in Figure 5) provide an indication of the socio-economic background of university and university college graduates and a measurement of the inter-generational transfer of educational advantage.

Figure 5: Parents' Highest Level of Educational Attainment [1]



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Parents' education is the highest level of educational attainment reached by either of respondent's parents (guardians).

The majority of graduates' parents have completed a post-secondary program (63%) with almost half (46%) receiving a university degree (Figure 5). This compares to a provincial average of just over one-fifth who have a university degree among the adult population between the ages of 25 to 64.[10] Hence, graduates from Alberta's university and university college system come from relatively high educational backgrounds. This supports well-established research showing that being a member of a family with a tradition of higher education increases the chances of completing a university degree.[11]

Certain groups of graduates are more likely than others to come from higher educational backgrounds (Figure 6). Males are slightly more likely to have a parent with a university degree than females (48% compared to 44%). Compared to older graduates, younger sample members

[10] Statistics Canada (2000) Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program, 1999 2000 Education Statistics Council, Catalogue no. 81-582-XPE.
[11] See De Broucker, P. and L. Lavellée (1998) "Getting ahead in life: does your parents' education count?" Canadian Social Trends, (Summer): 11-15; Butlin, G. (1999) "Determinants of postsecondary participation."

are much more likely to come from highly educated families. Just over half (52%) of the graduates who were less than 26 years of age (at the time they were interviewed) had at least one parent with a university degree compared to just over one-third (35%) of those more than 29 years of age. While a full analysis of these findings is beyond the scope of this report, if we make the reasonable assumption that the younger graduates in our sample have entered into the post-secondary system more recently than older graduates, then we might conclude that educational background differences on the basis of age indicate an over-time increase in the transfer of educational advantage.[12]

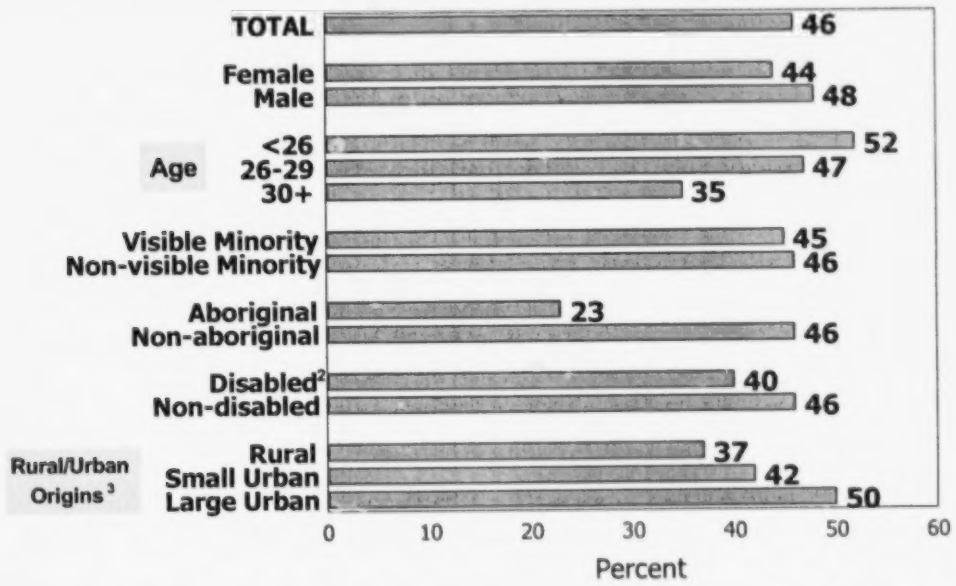
Although there is virtually no difference in educational background between visible minorities and non-visible minorities (45% and 46%, respectively), and only a small difference between disabled and non-disabled graduates (40% and 46%), aboriginal graduates (n=175 or 2.3% of the total sample) are half as likely than non-aboriginal graduates to have a parent with a university degree (23% compared to 46%). We might be tempted to conclude from these findings that the intergenerational transfer of education is less evident among aboriginal graduates than among non-aboriginal graduates. It is helpful, however, to situate these results by comparing them with the educational attainment among the aboriginal population as a whole. To whit, with only 5% of Alberta's aboriginal population of working age having obtained a university degree[13], our sample of aboriginal graduates are more than four times as likely (23%) to come from such a high educational background than other individuals of aboriginal-origin in the country. Hence, while aboriginal graduates are less likely to come from higher educational backgrounds than non-aboriginal graduates, they are much more likely to be from a family with a tradition of university education than the aboriginal population on average.

Education Quarterly Review. 5, 3: 9–35; Knighton, T. (2002) "Postsecondary participation: the effects of parents' education and household income" Education Quarterly Review, 8 (3): 25 - 32.

[12] Since we do not have information on the educational background of graduates from earlier surveys, we can only draw tentative conclusions about whether or not the relatively high level of educational background among our sample of graduates is increasing or decreasing. However, other research has shown a post-1990 widening gap in university participation rates between individuals from low and middle socio-economic backgrounds. See, for example, Bouchard, B. and J. Zhao (2000) "University education: Recent trends in participation, accessibility and returns," Education Quarterly Review (6) 4: 24 - 32).

[13] Statistics Canada (2000) Education Indicators in Canada, Council of Ministers of Education.

Figure 6: Parents with a University Degree[1] by Selected Socio-demographic Characteristics



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1]Parents' education is the highest level of educational attainment reached by either of respondent's parents (guardians).
[2] 'Yes' responses to the question "Do you consider yourself to have a disability that may disadvantage you in the labour market?"
[3]*Rural* includes locations with a population of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999 and *Large Urban* includes locations with a population of 75,000 or more.

Figure 6 also demonstrates that graduates from large urban centres tend to come from higher educational backgrounds than those from small urban and especially rural regions. Only 37% of rural-origin graduates have a parent with a university degree, compared to 50% of graduates from large urban centers.

D. EDUCATION ANALYSES AND SATISFACTION LEVELS

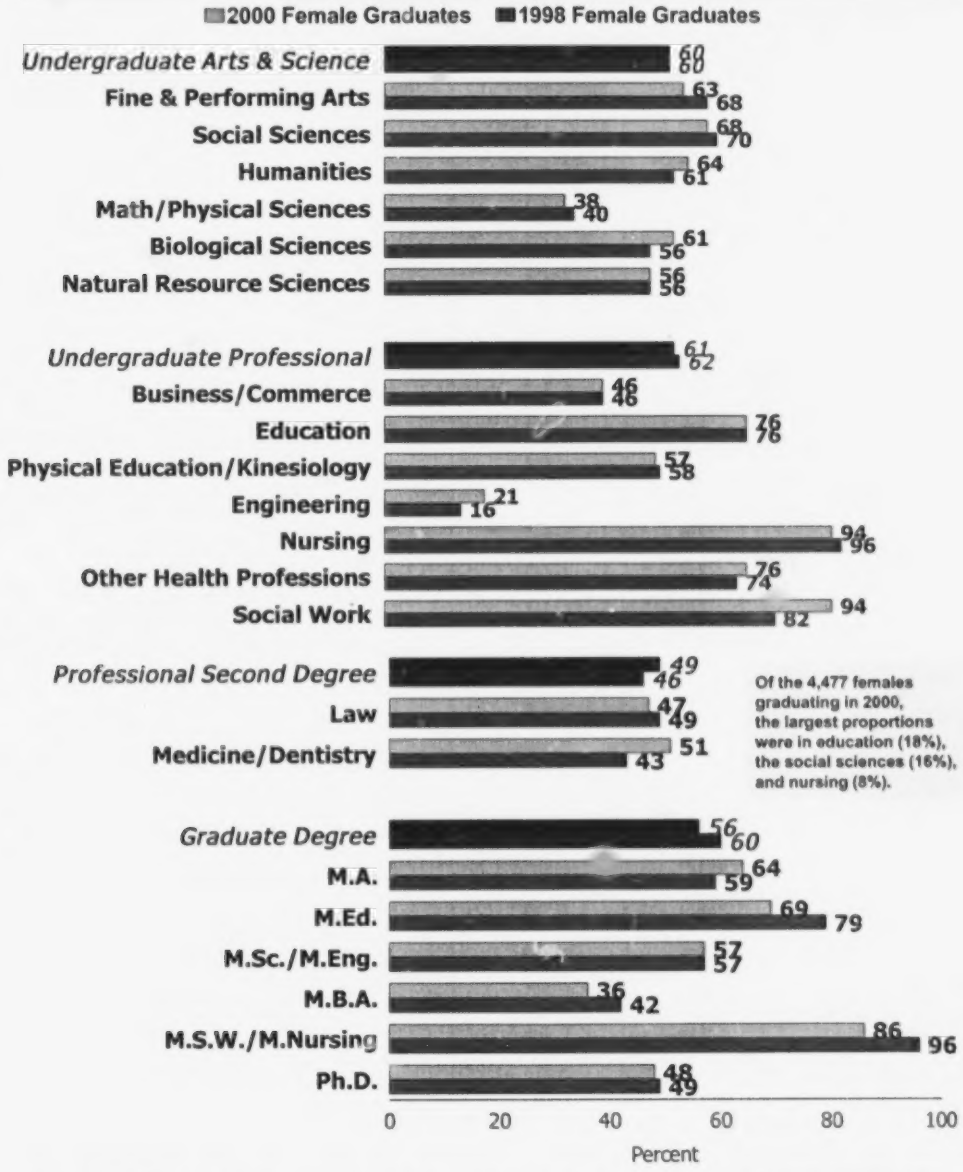
This section of the report examines responses to a new question about when graduates first applied for post-secondary studies, a question repeated in from the previous 2001 satisfaction survey about graduates' perceptions of the financial worth of their program of study, and an over-time comparison of levels of satisfaction with respondents' program of study. We begin, in *Section D.1*, however, with a fairly extensive analytic examination of field-of-study variations in socio-demographic characteristics. We know, for example, that females tend to dominate such fields of study as nursing and social work and that males are more highly represented in engineering and math/physical sciences, but very little analysis has been done to date on field of study differences among other minority groups. Moreover, since we have comparable results from the *class of 1998*, we can assess the over-time changes (or stability) of minority group representation within each field of study. Hence, when available and appropriate, comparable results from the first 1997 study of *1994* graduates are provided in the following discussion. With only two years between the 2002 and 2000 surveys, however, this comparative analysis provides a somewhat limited indication of trends.

D.1. Field of Study Analyses

Figure 7 presents the proportion of female graduates in each field of study for the current 2002 sample of *2000 graduates* and the 2000 sample of *1998 graduates*. With respect to the 2002 sample, female graduates dominate all but one (the exception is math/physical sciences) of the *undergraduate arts and science* programs and both undergraduate and graduate programs in education, nursing, and social work. Male graduates are over-represented in engineering and M.B.A. programs.

Turning now to the gender breakdown for the *1998* sample, we can observe only a few minor changes in the gender composition of each field of study between the two years. It has already been noted that virtually the same proportion of *2000* and *1998* graduates were women (Figure 3: 60% of *2000 graduates* and 61% of *1998 graduates*). Aside from the few over-time changes discussed below, women continue to dominate traditionally female programs and are still underrepresented in most traditionally male programs.

Figure 7: Gender by Field of Study
2000 and 1998 Graduates Compared



Of the 4,477 females graduating in 2000, the largest proportions were in education (18%), the social sciences (16%), and nursing (8%).

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

A small increase in female representation of 5 percentage points can be observed in the biological sciences (from 56% to 61%), in engineering (from 16% to 21%), and at the M.A. level (from 59% to 64%). A comparison of these results with the gender ratio among the sample of *1994* university graduates participating in the first employment study conducted in 1997[14], confirms that the increase in women in the biological sciences is part of a longer-term trend spanning the later years of the 1990s. While 53% of *1994* biological science university graduates were women, this figure rose to 55% by *1998* and to 60% by *2000*. In contrast, female representation in engineering and in M.A. programs was fairly constant between *1994* and *1998*, indicating that the female/male ratio increase occurred predominantly between *1998* and *2000*. Hence, while increases in female representation in the biological sciences appear to be part of a long-term and continuing trend, it is only recently that we observe increases in female engineering and M.A. graduates. Since women are already somewhat more highly represented in the biological sciences and in M.A. programs, the increase in engineering, while small, is of particular significance.

Figure 7 shows that, between 2000 and 2002, the largest increases in female representation occurred in medicine/dentistry (from 43% to 51%) and in social work (from 82% to 94%), an area that is increasingly dominated by women, at least at the undergraduate level. The increases observed among medicine/dentistry graduates and social work are both part of a six-year continuing trend in greater female representation (36% and 79%, respectively, of *1994* medicine/dentistry and social work graduates were female). While a decrease of 10 percentage points in female representation can be observed among recipients of M.S.W./M.Nursing (from 96% in 2000 to 86% in 2002) and M.Ed degrees (from 79% to 69%), this decrease is not an indication of an overall trend towards fewer females in these programs since about the same proportion of *1994* and *2000 graduates* were female.

Two years after completing their program, both *2000* and *1998 graduates* were, on average, 29 years of age (Figure 8). Very little change in age occurred in the two years between studies, so

[14] Since the earlier 1997 employment survey of 1994 graduates only included university graduates and not university college graduates, comparisons are made with the university sector of the current 2002 sample (n=7246) only and the university sector of the 2000 sample (n=6968).

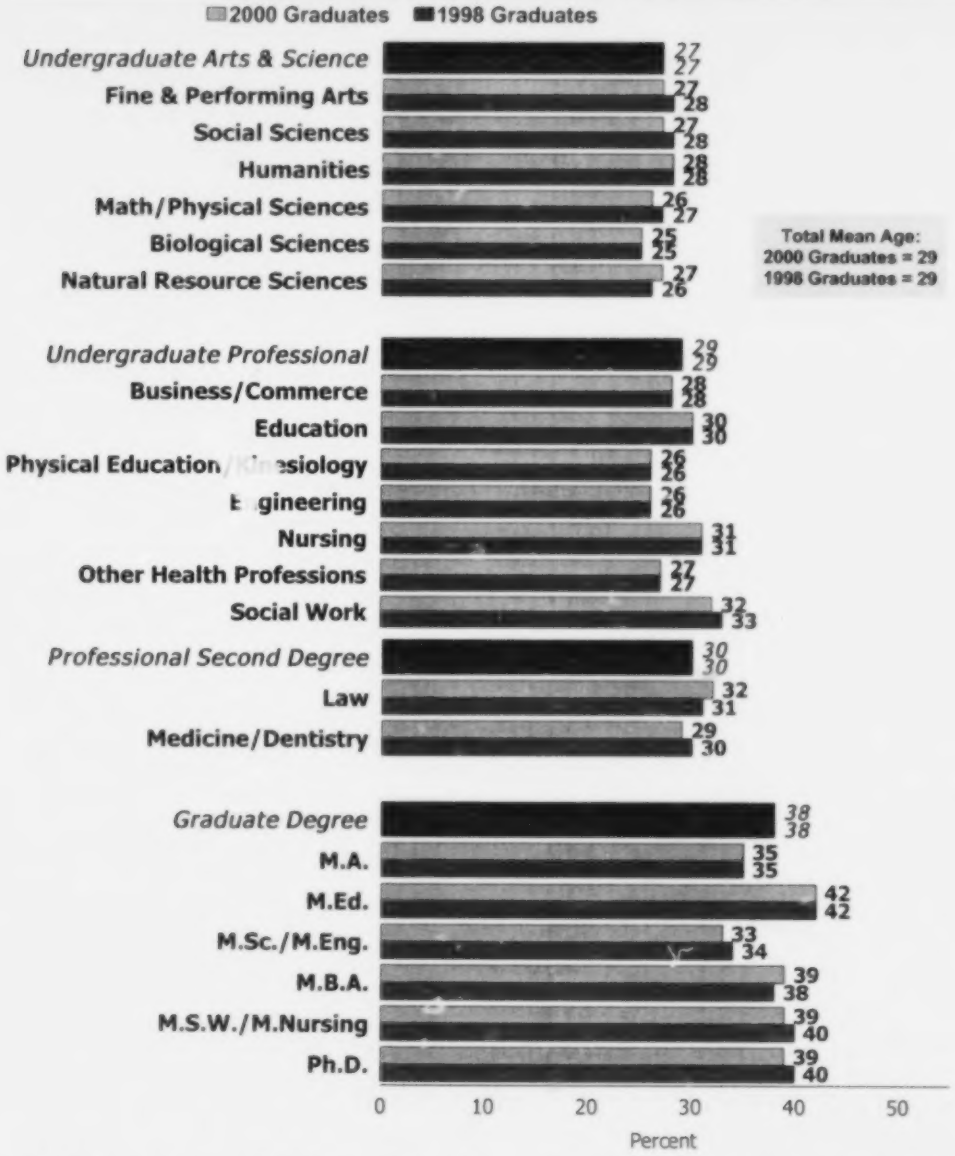
our focus is on observable age variations between fields of study. As we would expect, students graduating from *undergraduate arts and science programs* are the youngest sample members, while *professional 2nd degree* and *graduate degree* recipients are the oldest. Graduates from health-care related programs and education also tend to be somewhat older.

Given these differences in age by field of study and in light of the gender-based differences in programs discussed above (Figure 7), we might predict age variations between female and male graduates. To some extent, age differences between men and women in the study are a function of their varying concentrations in field of study (e.g. female predominance in the older-age programs such as nursing, social work, and education), but there is also evidence of gender differences in age within the same field of study (results not shown in table or figure). Although the average age of the female sample of graduates is almost identical to the male sample (29.6 compared to 29.2 years of age), these data mask considerable differences found within fields of study. Within virtually all *undergraduate arts and science* and *undergraduate professional* programs, female graduates tend to be younger than their male counterparts, and in some cases, significantly so. For example, only 15% of male education graduates are less than 26 years of age compared to 39% of female graduates. Although less variation can be observed in *professional 2nd degree* and *graduate degree* programs, the two largest gender-based age differences occur in law and in M.Ed. programs: 62% of males graduating with a law degree were at least 30 years of age compared to 44% of females, and 96% of male M.Ed. recipients were 30 years of age or older compared to only 87% of females.

We might expect that these gender-based age differences are a function of the age at which graduates enter into the post-secondary system (see *Section D.2* for a more complete analysis of the question on time of application to the post-secondary system). Although no gender differences were found in the time at which students first applied for post-secondary studies (55% of males and 55% females applied during high school), again these total figures mask differences by field of study. Following up on the education example used above, 43% of males first applied for post-secondary studies while still in high school compared to 52% of females.

We may thus conclude that gender-based age differences within fields of study are due, in part, to the fact that women tend to enter into the system at a younger age than men.[15]

Figure 8: Mean Age by Field of Study
2000 and 1998 Graduates Compared



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[15] As discussed later in Section D.2, however, we have found some questionnability as to the reliability of this

Turning to field of study differences in visible minority representation (Figure 9), we observe a fairly high level of variation between fields of study. Compared to the total 2002 sample average of 18%, visible minorities or non-caucasians are the most highly represented in math/physical sciences (24%), biological sciences (23%), business/commerce (23%), engineering (27%), medicine/dentistry (28%), and M.Sc./M.Eng. programs (23%). In addition, representation appears to be increasing in two of these fields of study: in engineering from 22% among *1998 graduates* to 27% among *2000 graduates* and in M.Sc./M.Eng. from 16% to 23%. Visible minorities, on the other hand, are under-represented in physical education/kinesiology (3%), M.Ed. programs (6%), and in M.S.W./M.Nursing (7%). Since *1998*, representation in these three fields of study has also decreased.

Since the sample only includes graduates residing in North America we should view these figures as conservative estimates of visible minority representation. Still, the results presented in Figure 9 demonstrate that, for the most part, visible minorities are increasing their representation in fields of study where they are already the most highly represented and are decreasing their participation in programs with the lowest representation.

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question. This conclusion, therefore, should be taken with caution.

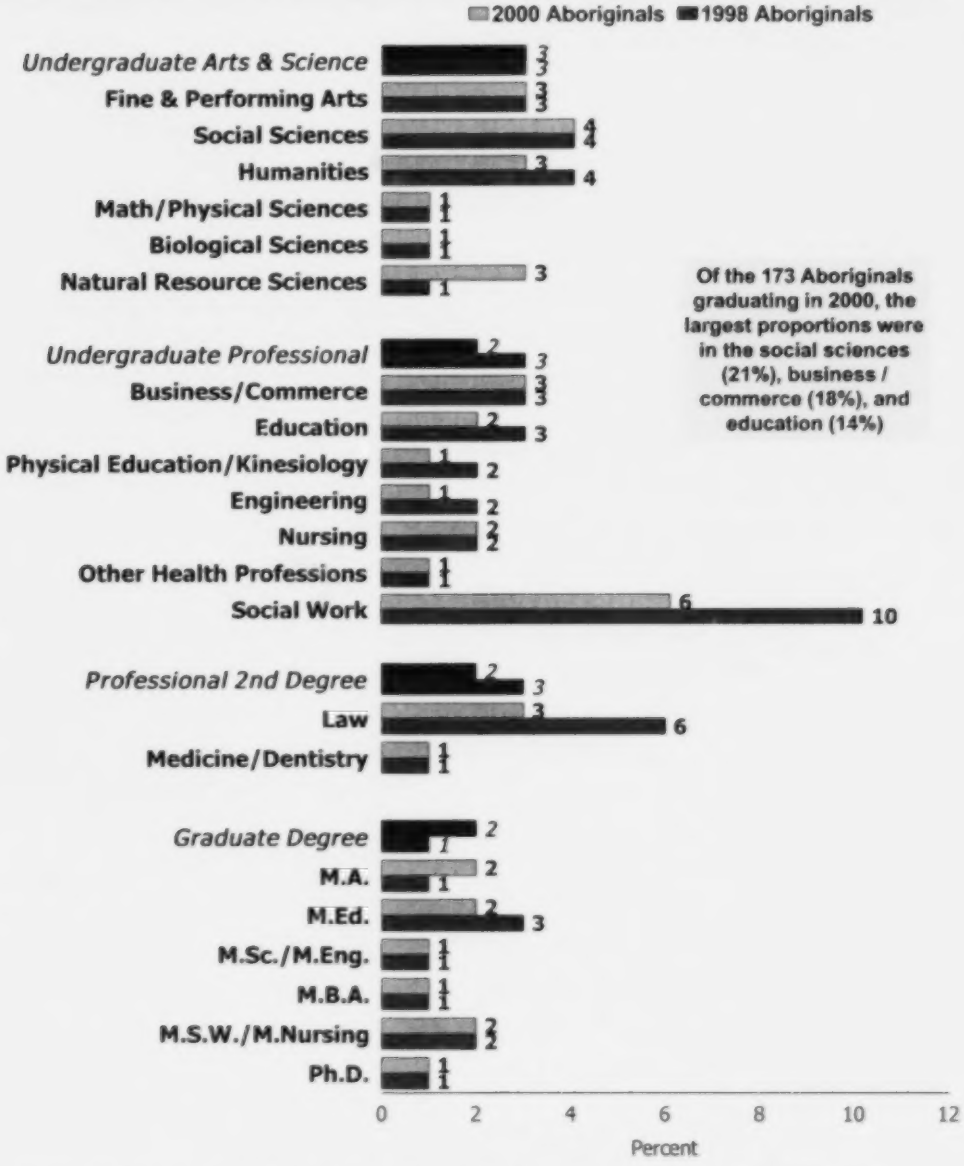
Figure 9: Visible Minority Status by Field of Study
2000 and 1998 Graduates Compared

Of the 1,257 visible minorities graduating in 2000, the largest proportions were in business/commerce (23%), the social sciences (20%), and engineering (27%).

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

It has already been noted that only 3% (n=173) of the total sample consider themselves to be "an aboriginal person (e.g. Status Indian, Non-Status Indian, Inuit or Metis)." Figure 10 demonstrates that this percentage has not changed since 1998. There is also little variation across field of study with aboriginal representation ranging from 1% to 3% for most areas. Two exceptions are the social sciences (4%) and social work (6%), although the latter figure decreased by four percentage points from 2000. The only other significant over-time change occurred among law graduates, with 6% of *1998* aboriginal graduates receiving an L.L.B. compared to only 3% of *2000* aboriginal graduates.

Figure 10: Aboriginal Status by Field of Study
2000 and 1998 Graduates Compared

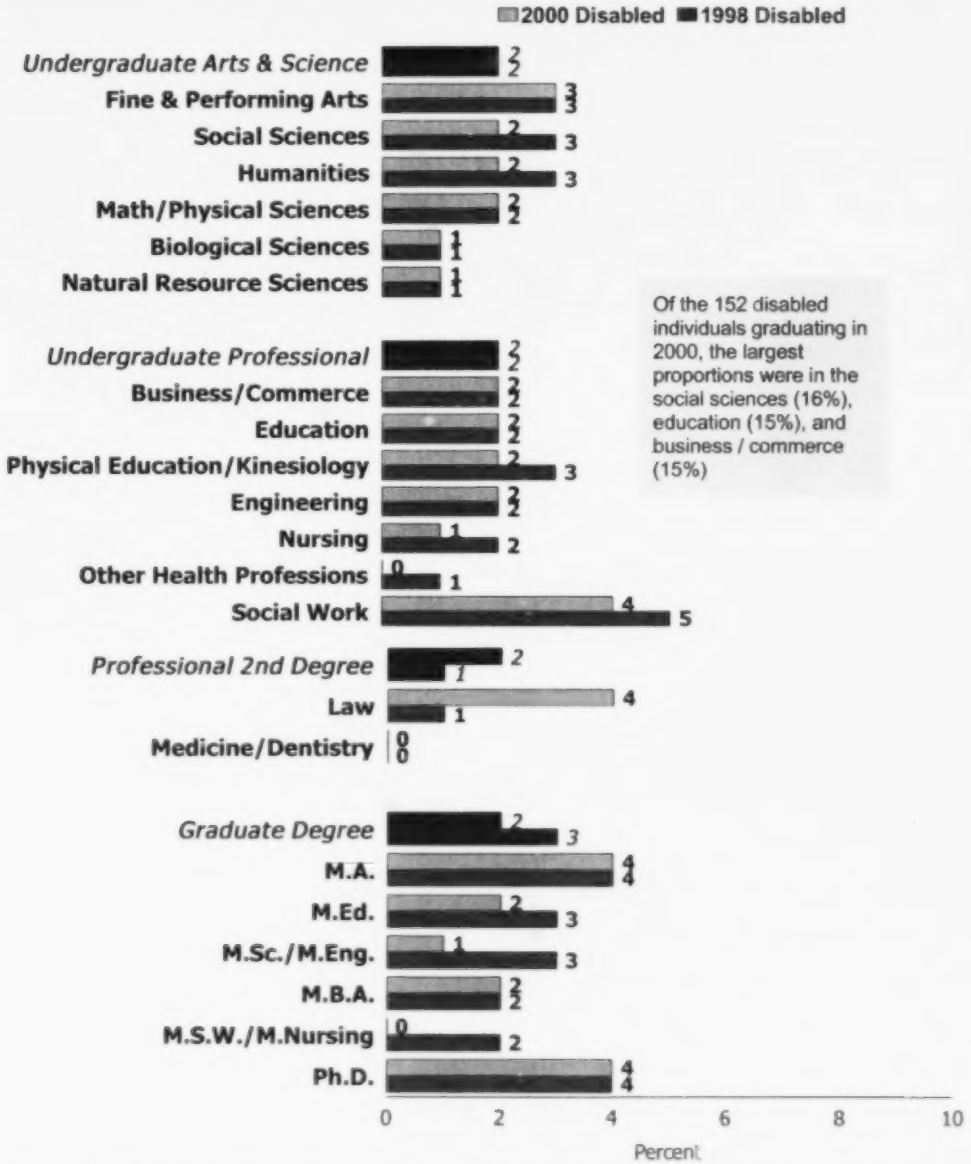


Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

Figure 11 presents the proportion of graduates who consider themselves to "have a disability that may disadvantage you in employment" by field of study and for the 2002 and 2000 surveys. As with the aboriginal sample of graduates, very little variation is found in disability status representation across fields of study and between the two survey years. Only 2% of disabled sample members graduated with any one of the four broad types of degrees. Notably, there are no disabled graduates in other health professions, medicine/dentistry, or M.S.W./M.Nursing programs. Compared to the average, a nominally greater proportion of disabled graduates obtained a degree in social work (down from 5% in *1998* to 4% in *2000*), in law (up from 1% to 4%), in M.A. programs (4% in both surveys), and in Ph.D. programs (4% in both surveys). Otherwise, the results presented in Figure 11 indicate that disabled graduates are under-represented in Alberta's university/university college system.[16]

[16] While about 16% of the total population are disabled, half as many (8%) between the ages of 15 and 34 are disabled (Statistics Canada, 2001, Canadians with Disabilities, Canadian Centre for Justice Statistical Profile Series, Catalogue 85F0033MIE).

Figure 11: Disability Status[1] by Field of Study 2000 and 1998 Graduates Compared



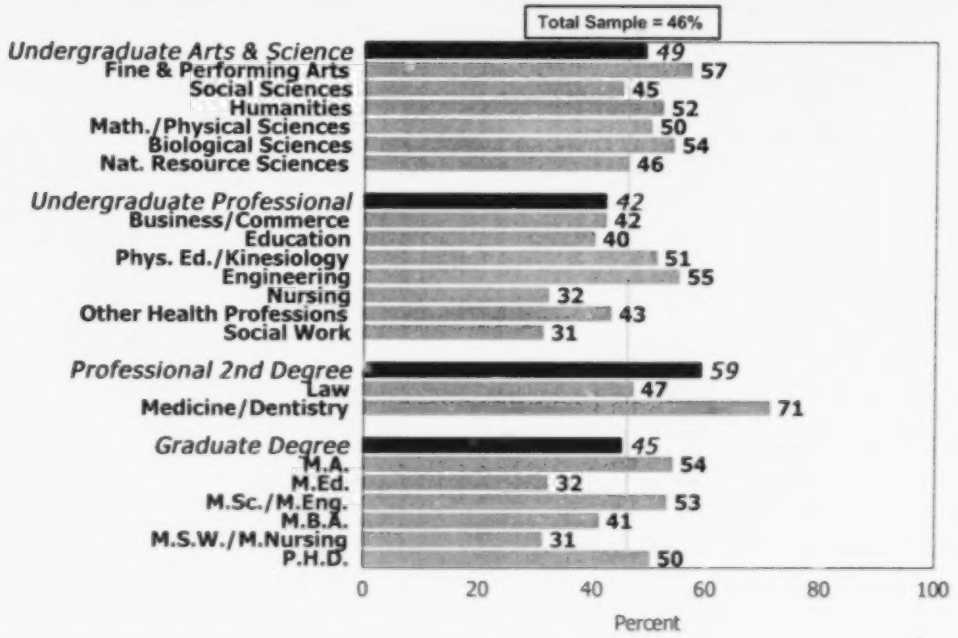
Of the 152 disabled individuals graduating in 2000, the largest proportions were in the social sciences (16%), education (15%), and business / commerce (15%)

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

1 "Yes" responses to the question "Do you consider yourself to have a disability that may disadvantage you in the labour market?"

To conclude this analysis of minority representation, we turn to class differences by examining graduates parents' level of education across fields of study among the 2002 sample only (this question was not asked in the 2000 survey) (Figure 12). Just under half the total sample (46%) had at least one parent with a university degree. Graduates in medicine/dentistry programs, however, were considerably more likely (71%) to come from a high educational background than other graduates. Conversely, nursing (32%) , social work (31%) , M.Ed. (32%) and M.S.W. / M.Nursing (31%) graduates tended to come from families with lower levels of education. In the earlier discussion of Figure 6, it was noted that slightly fewer female than male graduates (44% compared to 48%) had a parent with a university degree. Part of the gender difference in educational background, therefore, coincides with women's domination in these study fields.

Figure 12: Parent(s) with University Degree [1] by Field of Study



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Parents' education is the highest level of educational attainment reached by either of respondent's parents (guardians).

Moreover, with the exception of medicine/dentistry graduates, students with more advanced degrees do not necessarily come from homes where a parent is a university graduate. Graduate degree recipients are only marginally more likely, and in the case of M.Ed. and M.S.W./M.Nursing much less likely, to have a university-educated parent. This observation makes sense given the earlier finding that older graduates are much less likely to have a parent with a university degree than younger graduates (Figure 5). Still, in contrast to what we might expect, the most educated graduates in the sample do not necessarily come from more educated families. Again, however, medicine/dentistry graduates stand out as an exception to this conclusion.

The findings from this figure and the earlier results presented in Figures 5 and 6 suggest that while socio-economic origins may influence the likelihood of participating in the university system, they are not a strong determinant of whether or not students continue on to higher level programs.[17] We can also conclude that socio-economic origins more strongly influence the likelihood that younger and male students participate in university/university college, but less so among female and older graduates. Hence, the intergenerational transfer of educational advantage appears to be more evident for some students than others.

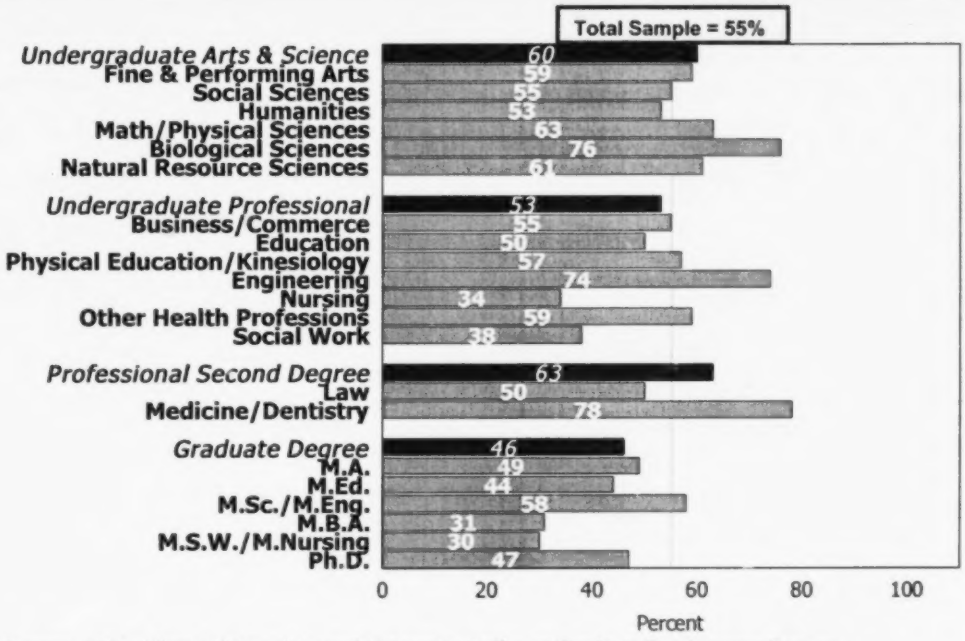
D.2 Time of Application to Post-secondary Studies

In this section of the report, we examine responses to a new question asking respondents to indicate the time at which they first applied for post-secondary studies. Just over half of the sample (55%) first applied to the post-secondary system while in high school. Figure 13 illustrates, however, that graduates from a few fields of study are more likely to apply at this early stage. Specifically, those graduating in the biological sciences (76%), engineering (74%), and in medicine/dentistry (78%) were considerably more likely to have applied to the post-secondary system before completing high school. On the other hand, nursing and social work graduates were the least likely to apply while still in high school (34% and 38%, respectively).

---

[17] Response categories for the question on parents' highest level of educational attainment did not permit distinctions in degree level within the university-degree category (e.g. undergraduate versus graduate degrees). This more detailed information might lead to a different conclusion if it was found, for example, that graduate degree recipients were more likely than other respondents to have a parent with a graduate degree.

Figure 13: Percent Applying for Post-secondary Studies Before Leaving High School[1] by Field of Study



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

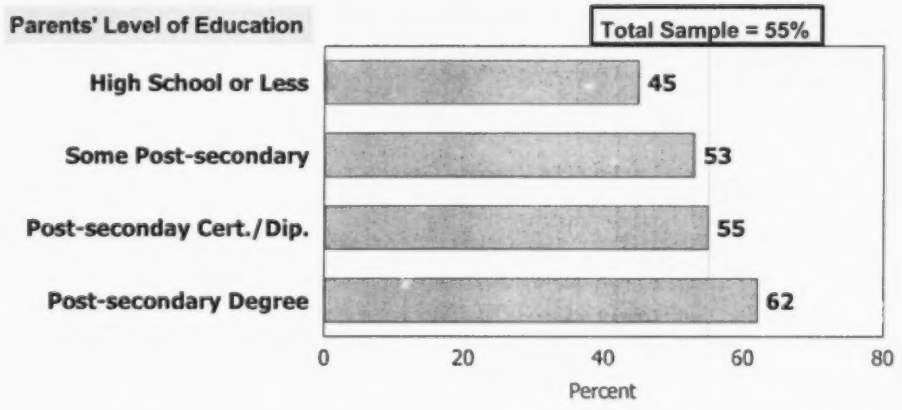
[1] Based on responses to the question: "At the time when you FIRST applied for post-secondary studies, how many months had it been since you completed or left high school?"

Moving down Figure 13 to *graduate degree* recipients, it is somewhat surprising to find that these more mature and longer-term students were the least likely to apply before leaving high school. By way of extrapolation, these findings suggest that the later one applies to the post-secondary system the greater the likelihood of obtaining an advanced degree. This conclusion, however, should be taken with a note of caution since the unexpected results among graduate students may be an indication that survey respondents were not answering the question with respect to when they "FIRST applied for post-secondary studies." All other survey questions on prior education refer to respondents' program of study from which they graduated in *2000*. Hence, it is possible that some respondents may have answered this question with reference to when they applied to their last program of study and not their post-secondary studies. This possibility combined with the 'back-thinking' required when answering this question (particularly

among graduates in more advanced degrees or those with more than one degree) suggest that the results provided in Figure 13 should be interpreted with care.

With this note of caution in mind, Figure 14 presents the percentage of graduates who applied for post-secondary studies before completing high school, cross-tabulated by parents' highest level of education. The results demonstrate a strong linear relationship between time of application and parents' education. The higher the parents' education, the greater the likelihood that graduates first applied for post-secondary studies while still in high school. To summarize, graduates from higher educational backgrounds are more likely to be male, non-aboriginal, non-disabled, from urban regions, from medicine/dentistry programs, and as Figure 14 suggests, to enter the post-secondary system at an earlier period and therefore at a younger age.

Figure 14: Percent Applying for Post-secondary Studies[1] Before Leaving High School by Parents' Level of Education[2]



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Based on responses to the question: "At the time when you FIRST applied for post-secondary studies, how many months had it been since you completed or left high school?"

[2] Parents' education is the highest level of educational attainment reached by either of respondent's parents (guardians).

D.3 Cost-benefit Analysis of Program of Study

In this section and the next we examine results from a series of questions that measure graduates' level of satisfaction with their program of study. We begin, in *Section D.3,* by providing responses to a question about the financial worth of respondents' program of study and, in *Section D.4,* turn to results from a set of six standard program satisfaction questions. Analysis of the question asking graduates to provide a cost-benefit analysis of their program of study are singled out from other satisfaction questions for two reasons. Statistical analyses done for the 2001 satisfaction report suggested that this question might be viewed as another satisfaction question. Although the cost-benefit question was first asked in the 2001 survey, the wording of this question was modified for the current 2002 survey. Hence, results for this question deserve special attention to determine whether or not changes in wording yielded significantly different results. Second, in contrast to all other satisfaction questions and to the 2001 satisfaction survey where all sample members were asked the cost-benefit question, only currently employed 2002 survey respondents were asked to respond to the question.

In both the 2001 satisfaction survey and the current 2002 employment survey, respondents were asked to indicate the extent to which they agreed or disagreed on a five-point scale that their program was worth the cost. Analysis of the results for this question in the 2001 satisfaction survey suggested that students conducted a cost-benefit assessment by taking stock of how satisfied they were with their education overall, rather than by focussing on how much debt they accumulated. We found a strong correlation between this question and the six other program satisfaction questions (discussed in *Section D.3* below), but a much weaker relationship with student debt levels (used as a proxy for cost). Based on this evidence, it was concluded that the question was a better indication of program satisfaction than it was of the education-related costs incurred to complete their degrees.[18] As a result of these findings, steering committee members changed the wording of the question for the current 2002 study in an attempt to garner graduates' views of the worth of their education given the financial costs. In the 2001 satisfaction survey, the question read: "Given the benefits of post-secondary education, do you consider your program to be worth what it cost?" In the 2002 employment study, the question read "Given

[18] See Krahn and Sorensen, 2001, *op cit.*, pp. 64 - 68.

your education, training, and experience, do you consider your program to be worth the financial cost to you and your family?"

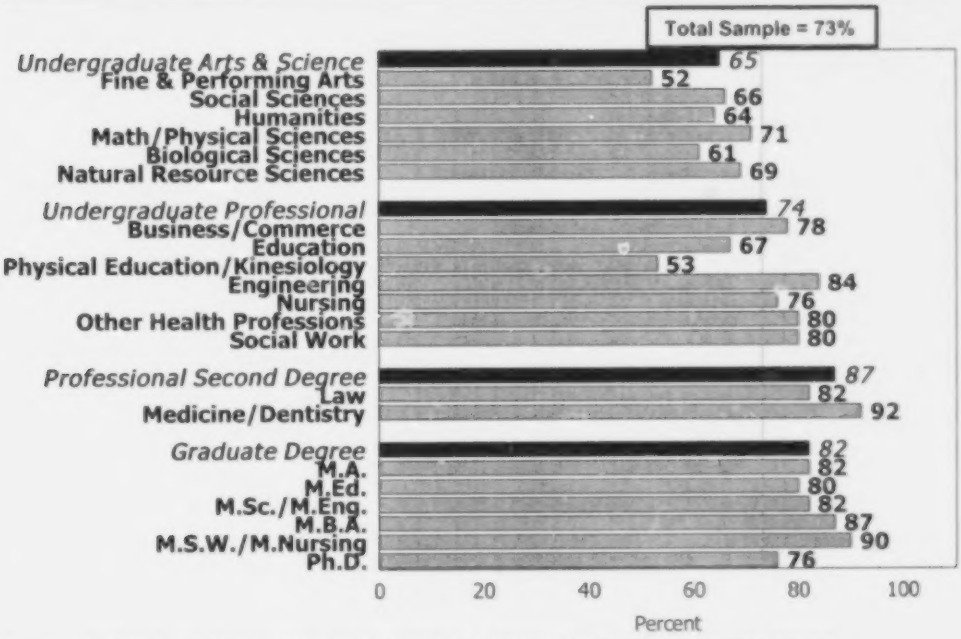
Given that the wording was changed in this question in 2002, that only currently employed graduates were asked the question (all 2001 sample members were asked the question), and that the question is being asked two years after graduating (compared to students about to graduate), we might expect different results between the 2001 and 2002 surveys. Indeed, a somewhat greater proportion of 2002 than 2001 survey respondents indicated that they agreed with this question (by indicating a score of '4' or '5' on a five-point scale). While only 64% of 2001 students 'agreed' that their program was "worth what it cost," 73% of currently working 2002 sample members agreed that their program was worth "the financial cost to you and your family." Hence, students were more likely to value the worth of their program two years after graduating than they were at the time of graduating. Although we must consider the wording change when drawing this conclusion, it does appear that participants in the province's university and university/college system are more likely to perceive their program as valuable once given the chance to use their education in the labour market.[19]

Figure 15 highlights field of study differences in response to the cost-benefit question for the 2002 sample. A familiar pattern of results revealed in prior surveys emerges: with a few exceptions, *undergraduate arts and sciences* students are less likely than those graduating from *undergraduate professional* programs to agree that their program was worth the financial cost, and *graduate degree* recipients and particularly *professional 2nd degree* graduates are the most likely of all sample members to respond in a positive fashion.

One might presume that responses to this question vary depending on graduates' socio-economic background, as measured by parents' highest level of education, or based on the relatedness between one's current job to program of study. No differences, however, were found in responses to the cost-benefit question and parents' education. Graduates were equally likely to agree that their program was worth the financial cost regardless of whether or not their parents'

[19] Additional analysis supports the conclusions from the 2001 satisfaction survey that the cost/benefit question should continue to be examined as another measure of satisfaction. Factor analyses revealed a single factor when loading all 6 satisfaction questions and the cost/benefit analysis question together.

Figure 15: Percent Agreeing Program Worth Financial Cost[1] by Field of Study, Currently Employed Graduates Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Based on responses to the question: "Given your education, training and experience, do you consider your program to be worth the financial cost to you and your family?" Respondents answered on a five-point scale with '1' representing "*strongly disagree*" and '5' representing "*strongly agree*." Scores of '4' and '5' are combined and presented in this figure. This question was asked of currently employed graduates only.

have a university degree. On the other hand, responses to the cost-benefit question varied by whether graduates' jobs were related to their program of study (See question C13c in *Appendix 1*). While 79% of graduates reporting that their job is related to their program of study indicated that their program was worth the financial cost, only 57% of those in a job not related to their program of study responded similarly. Hence, graduates who were able to find jobs that matched their particular program of study were more likely to justify the education-related costs.

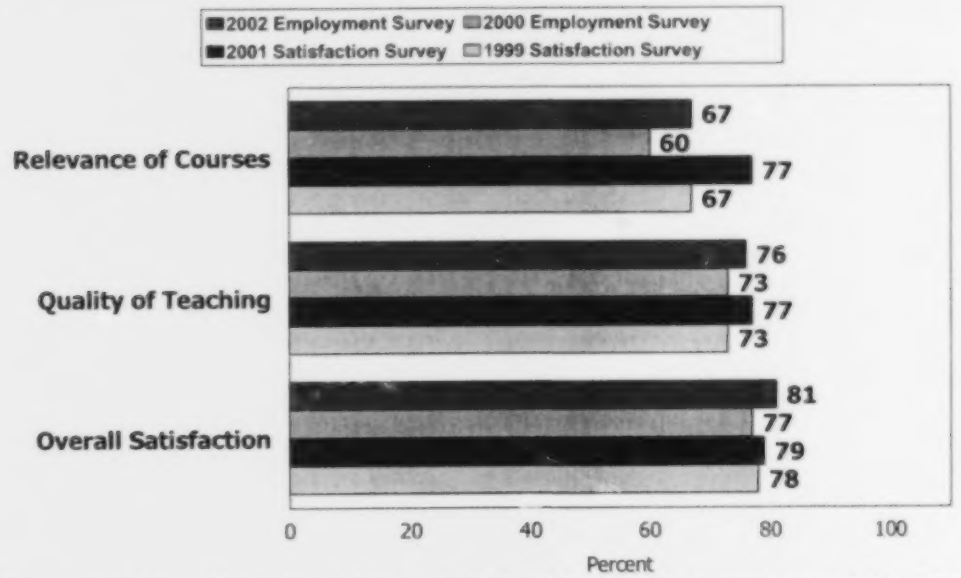
D.4 Over-time Change in Satisfaction with Program of Study

The 2000 and 2002 graduate employment surveys and the 1999 and 2001 student satisfaction surveys contained six questions asking students to indicate their level of satisfaction with their program of study. Total sample results for all four surveys are presented in Figures 16 and 17 below (field of study results for the 2002 survey are presented in *Appendix 3*--Tables 3 and 4--with no further discussion).[20] An over-time comparative analysis of results from these questions allows confirmation of the reliability of the satisfaction measures that has been established in previous reports (as measured by the consistency of results over time), and helps to determine the effects of labour market experience on program satisfaction (by comparing satisfaction survey results with employment survey results).

Respondents were invited to respond on a five-point scale with '1' representing "*very dissatisfied*" and '5' representing "*very satisfied*." Scores of '4' and '5' are combined and presented in figure 16.

We draw attention to three key findings. First, while much over-time stability can be observed for most of the satisfaction items listed in the figure, the same cannot be said of satisfaction levels with the relevance of courses where we see a range of 17 percentage points across time. Second, satisfaction levels have increased slightly over time within each type of survey (employment and satisfaction). Compared to 2000 employment sample members, for example, those surveyed in the employment study conducted in 2002 were slightly more satisfied with the relevance of their courses (67% compared to 60%), the quality of teaching (76% compared to 73%) and with their program overall (81% compared to 77%). Third, employment survey respondents and satisfaction survey respondents were equally satisfied with the quality of teaching and with the program overall, controlling for survey year. For example, 81% of *2000 graduates* who were interviewed two years later were satisfied with their program overall, compared to 79% of recent graduates who were interviewed in 2001. For the most part, the high levels of satisfaction found in previous surveys have held for the current 2002 survey.

Figure 16: Satisfaction with Post-secondary Program [1]
2002 and 2000 Employment Surveys and 2001 and 1999 Satisfaction Surveys Compared



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey; 2000 Alberta Universities and University Colleges' Graduate Employment Survey; 2001 Alberta Universities and University Colleges' Student Satisfaction Survey; 1999 Alberta Universities and University Colleges' Student Satisfaction Survey

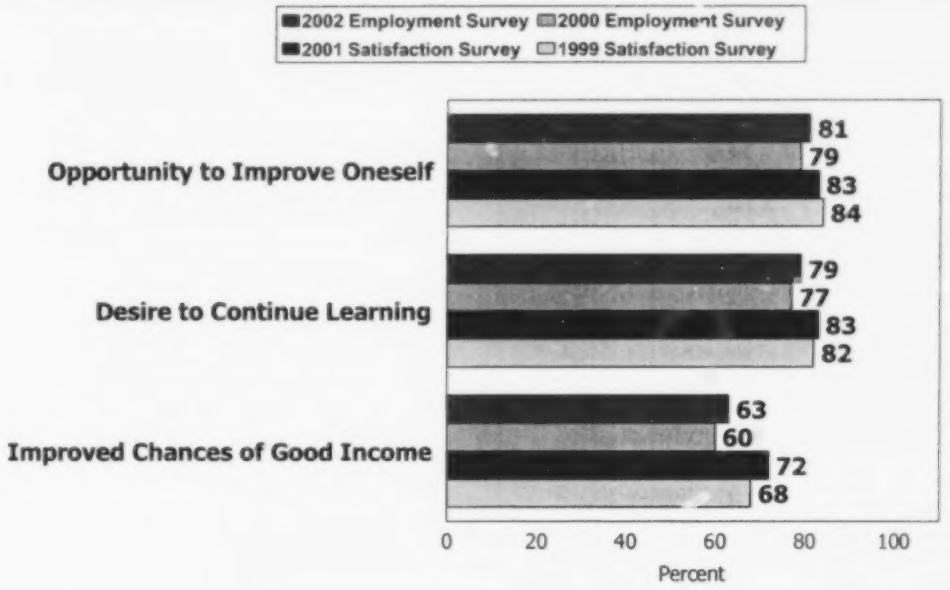
[1] Respondents answered on a five-point scale with '1' representing "*very dissatisfied*" and '5' representing "*very satisfied*." Scores of '4' and '5' are combined and presented in this figure.

Figure 17 presents the results, for all four surveys, from questions asking respondents to indicate the extent to which their program provided three benefits. Respondents were instructed to describe the extent to which their program had provided these benefits using a five-point scale with '1' representing *"not at all"* and '5' meaning *"to a great extent."* Again, while there is a considerable amount of stability across time, there is also some indication, although not quite as obvious, of an over-time increase in satisfaction. The greatest variation between survey types is observed for the benefit of "improved chances of a good income." Once students have had a

[20] With two different types of surveys and four different survey years, the terms used to describe each sample may appear confusing. For clarification of these terms, please refer to the chart presented in *Section A* describing the year and type of survey and the graduating year for each sample.

chance to experience the non-student labour market first hand (employment surveys), they appear to be less likely to agree that their program improved their chances of earning a good income.

Figure 17: Perceived Benefits of Post-secondary Program [1] 2002 and 2000 Employment Surveys and 2001 and 1999 Satisfaction Surveys Compared



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey; 2000 Alberta Universities and University Colleges' Graduate Employment Survey; 2001 Alberta Universities and University Colleges' Student Satisfaction Survey; 1999 Alberta Universities and University Colleges' Student Satisfaction Survey

[1] Respondents answered on a five-point scale with '1' representing "*not at all*" and '5' representing "*to a great extent*." Scores of '4' and '5' are combined and presented in this figure.

E. EMPLOYMENT OUTCOMES

We now shift our attention from the education experiences before graduating to the post-graduation employment outcomes of the *class of 2000*. Again, since we have comparable data from the 2000 survey of the *class of 1998*, results from this earlier survey are provided when available. Our analytic goal in this section is to determine whether the labour market experiences of *2000 graduates* differed in any way from those experienced by the earlier 1998 cohort.

All data presented in this section are for current non-students only. Exactly one-quarter of the total sample were students when interviewed. As revealed in *Section G*, where we take a closer look at the labour market outcomes among the current student population, continuing or returning students are in a transitory labour market, typically holding 'student jobs' that do not reflect the market value of their educational credentials. By focusing, in this section, on the current labour market activity among graduates who have completely left the post-secondary system, we are presenting a more appropriate measure of how successfully Alberta university and university college graduates have been able to transport their degrees into labour market rewards.

E.1 Labour Force Participation and Unemployment Rates

Figure 18 shows, for the 2002 sample of current non-students, a very high labour force participation (LFP) rate of 97.2%, up from 96.3% in 2000. This indicates that almost all graduates are active members of the labour market, whether they are employed or unemployed (but looking for work). This LFP rate may be compared to the LFP rate for the province of Alberta as of March 2002 which was 73%.[21]

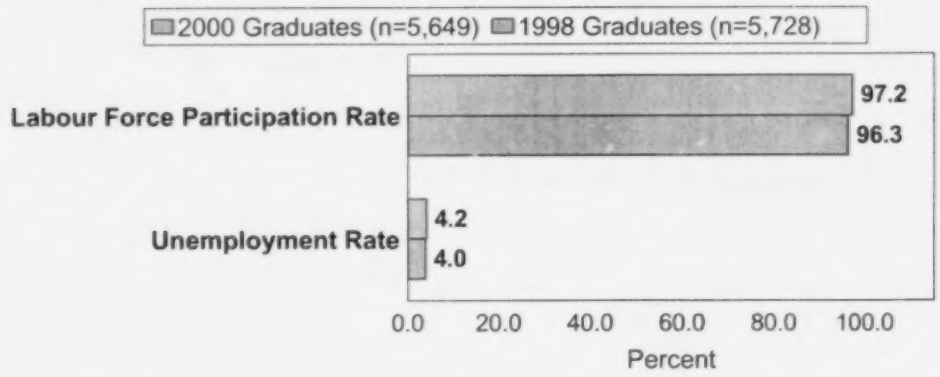
Figure 18 also highlights that the very low unemployment rate found among *1998 graduates* has continued for the *2000* cohort (hovering around 4%). Again, these rates are more favourable

[21] Statistics Canada (2002) The Daily, Friday, April 5, 2002.

than Alberta's population as a whole (5.0% in March, 2002).[22] Clearly, very few university/university college graduates who had left the formal education system were having trouble finding work.

While only minor variations in LFP rates by field of study can be found, the same cannot be said for the unemployment rates among *2000 graduates* (Table 3). Compared to *1998 graduates*, the percentage point range in unemployment rates among *2000 graduates* is somewhat greater, extending from less than 1% for nursing graduates to 12% among humanities graduates. For both surveys, however, unemployment rates were the highest among recipients of *undergraduate arts and science* degrees (8% among *2000 graduates* and 6% among *1998 graduates*).

Figure 18: Labour Force Participation [1] and Unemployment Rates [2]
2000 and 1998 Graduates Compared
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey
[1] The Labour Force Participation Rate is based on the ratio of respondents who are currently employed or who are out of work (but looking for work) to the total sample.
[2] The Unemployment Rate is based on the ratio of respondents who are currently unemployed to those who are in the labour force.

[22] Statistics Canada *op. cit.* When comparing these unemployment figures, we should also recognize that UI rates among youth are often much higher than for the population as a whole. For example, in 2000 the youth unemployment rate was 12.5% compared to 6.6% for the entire population of Canada.

Table 3: Labour Force Participation and Unemployment Rates by Field of Study; 2000 and 1998 Graduates Compared

Current Non-students Only

	Percent			
	Labour Force Participation Rate[1]		Unemployment Rate[2]	
Field of Study	2000 Graduates	1998[3] Graduates	2000 Graduates	1998 Graduates
TOTAL	**97**	**96**	**4**	**4**
Undergraduate Arts & Science	***95***	***95***	***8***	***6***
Fine & Performing Arts	96	94	6	6
Social Sciences	95	95	6	5
Humanities	97	91	12	7
Math/Physical Sciences	96	97	8	5
Biological Sciences	93	95	8	8
Natural Resource Sciences	95	98	8	4
Undergraduate Professional	***98***	***98***	***3***	***3***
Business/Commerce	99	98	5	3
Education	97	97	2	4
Phys.Ed/Kinesiology	96	99	3	5
Engineering	99	99	6	3
Nursing	98	98	<1	1
Other Health Professions	97	98	7	1
Social Work	96	91	4	0
Professional 2nd Degree	***96***	***95***	***5***	***3***
Law	96	98	5	3
Medicine/Dentistry	97	90	3	4
Graduate Degree	***98***	***96***	***2***	***3***
M.A.	100	95	4	5
M.Ed.	99	95	1	3
M.Sc./M.Eng.	96	94	2	2
M.B.A.	100	97	2	2
M.S.W./M.Nursing	98	93	2	3
Ph.D.	99	98	2	4

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] The *Labour Force Participation Rate* is the ratio of respondents who are currently employed or who are out of work (but looking for work) to the total sample.

[2] The *Unemployment Rate* is the ratio of respondents who are currently unemployed to those who are in the labour force.

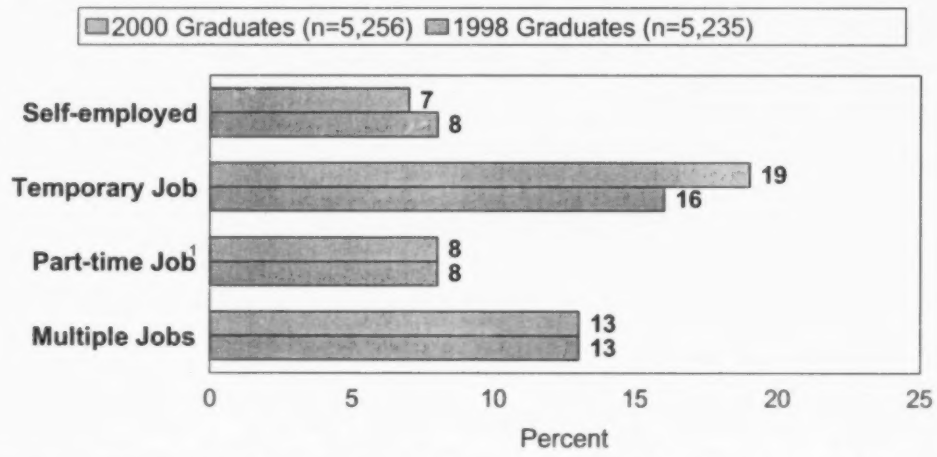
[3] The 1998 sample of graduates includes 14 respondents from Nazarene University College.

E.2 Non-standard Employment

As business is increasingly faced with stiffer competition and a more rapidly changing market, employers often attempt to cut costs or address flexibility needs by hiring temporary or part-time labour. The incidence of these as well as other forms of non-standard jobs (self-employment and holding more than one job at a time) increased during the 80s and early 90s, but has tapered off in the last 6 or 7 years. Since most forms of non-standard employment are associated with lower pay and benefits and job instability, we can view non-standard employment as a less-than-desirable labour market outcome.

With the exception of a small increase in temporary jobs held by university and university college graduates (from 16% to 19%), rates of non-standard employment remained stable between 2000 and 2002 (Figure 19). For both employment surveys, 8% of the sample were working in a part-time job (less than 30 hours a week) and 13% in more than one job (multiple jobs). Similar proportions were found in self employment (7% of *2000 graduates* and 8% of *1998 graduates*).

Figure 19: Non-Standard Employment
2000 and 1998 Graduates Compared
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Part-time work includes graduates who work less than 30 hours per week in their main job.

The rates of non-standard employment are quite different for the Canadian labour force as a whole. While part-time employment is more than twice as common in the Canada-wide labour force (18% compared to 8%), rates of temporary employment are somewhat higher among the 2002 sample of non-students (19% compared to 13%). Explanation for the difference in part-time rates is fairly straightforward. Rates of part-time employment are higher among the total working population because of the inclusion of students and adult women with younger children, two of the most likely groups to be working on a part-time basis. The reason why recent university-graduates are more likely to be working in temporary jobs, however, is less obvious. Perhaps this figure reflects the propensity for employers to provide temporary positions to new labour market entrants.

How do non-standard work arrangements vary by fields of study? As highlighted in Table 4, the largest variation within any single form of non-standard employment is observed for temporary jobs. While fine and performing arts, biological science, education, medicine / dentistry, and Ph.D. graduates are on average more than likely to be in a temporary job, very few engineering and M.B.A. graduates have found themselves in this less stable and typically lower paying work arrangement. Less field-of-study variation is found for part-time work, although the rates range from a low of less than 1% among engineering graduates to a high of 17% among nursing and fine and performing arts graduates. In fact, fine and performing arts graduates have some of the highest rates of non-standard employment across the board: self-employment (24%), temporary (39%), part-time (17%), and multiple jobs (35%).

As for shifts over time, again some of the largest percentage changes can be seen in the incidence of temporary jobs. Of particular note is the fact that more than one in three (36%) *2000* education graduates were working in temporary jobs in 2002, up from one in five (23%) in 2000. Conversely, considerably fewer medicine/dentistry graduates held temporary jobs in 2002 than in 2000 (down from 56% to 37%); however, these are still among the highest rates observed on Table 4.

Table 4: Non-standard Employment by Field of Study; 2000 and 1998 Graduates Compared
Current Non-students Only

	Percent							
	Self-employed		Temporary Job		Part-time Job[2]		Multiple Jobs	
Field of Study	2000	1998[1]	2000	1998	2000	1998	2000	1998
TOTAL	**7**	**8**	**19**	**16**	**8**	**8**	**13**	**13**
Undergraduate Arts & Science	***10***	***9***	***22***	***22***	***9***	***8***	***15***	***14***
Fine & Performing Arts	24	26	39	37	17	17	35	27
Social Sciences	8	8	18	18	9	9	13	13
Humanities	11	10	28	21	16	7	20	12
Math/Physical Sciences	6	4	16	10	6	5	9	15
Biological Sciences	7	6	31	37	12	9	15	11
Natural Resource Sciences	10	8	20	23	4	6	10	11
Undergraduate Professional	***5***	***4***	***19***	***14***	***7***	***8***	***13***	***12***
Business/Commerce	8	7	6	5	2	3	10	6
Education	3	3	36	23	9	8	15	13
Phys.Ed/Kinesiology	11	6	26	24	9	12	16	25
Engineering	4	4	4	3	<1	2	3	3
Nursing	1	1	12	12	17	16	17	20
Other Health Professions	7	9	8	7	6	13	17	14
Social Work	2	3	12	14	10	15	12	14
Professional 2nd Degree	***11***	***18***	***17***	***23***	***2***	***2***	***2***	***5***
Law	3	10	9	7	1	0	2	3
Medicine/Dentistry	29	36	37	56	3	6	3	10
Graduate Degree	***11***	***14***	***15***	***12***	***9***	***10***	***12***	***14***
M.A.	22	27	22	16	12	12	23	19
M.Ed.	8	7	9	8	10	9	9	13
M.Sc./M.Eng.	12	11	16	8	15	15	15	13
M.B.A.	10	19	5	8	2	2	9	7
M.S.W./M.Nursing	5	16	15	14	15	16	13	19
Ph.D.	9	11	28	22	5	7	12	18

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] The 1998 sample of graduates includes 14 respondents from Nazarene University College.

[2] Part-time work includes graduates who work less than 30 hours per week in their main job.

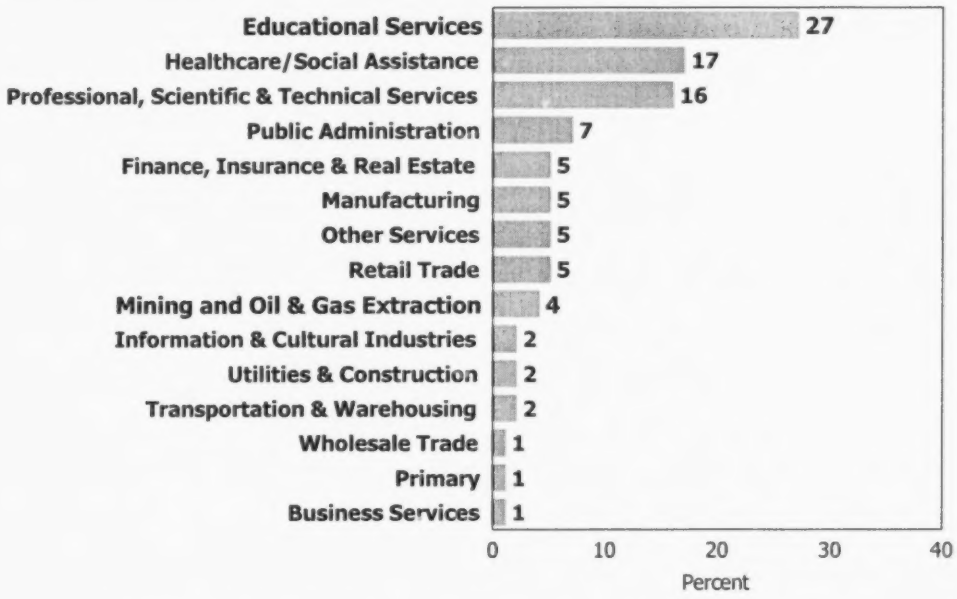
When the sample of current non-students was asked why they worked part-time (question C4b), the most common response (35%) was that they could not find a full-time job. Only 17% of the 415 graduates working part-time indicated that they did not want full-time work. Hence, many graduates were involuntarily working in part-time jobs. It is not surprising that most recent graduates prefer full-time employment given the considerable amount of time they have just invested in acquiring a post-secondary degree.

E.3 Industry and Occupation Distributions

When assessing the labour market 'pay offs' of a university degree it is important to examine the industry and occupation distributions among the non-student population. Beginning with industry of employment among the 2002 sample, Figure 20 demonstrates that a large minority of graduates (27%) were working in the educational services industry.[23] Graduates were also more likely to be in healthcare / social assistance (17%) and professional, scientific and technical services (16%) than in other industries. The remaining data presented in Figure 20 illustrate that the sample of non-students were represented in a wide variety of industries, albeit in fairly low ratios.

[23] Coding of industry for the 2000 employment survey was based on the 2-digit Standard Industrial Classification (SIC) codes, however, for the 2002 employment survey the decision was made to use the more recently-developed North American Industry Classification (NAIC) system. As a result, we cannot make industry comparisons between the two surveys.

Figure 20: Industry Distribution[1]
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Industry categories are based on 2-digit North American Industry Classification System (NAIC) codes.

In Table 5, the 15 industries are combined into three general categories that distinguish goods-producing industries from upper-tier and lower-tier service industries. First to note from this table is the large proportion of graduates working in the upper-tier services compared to the country as a whole. Almost eight in ten (78%) graduates from one of Alberta's universities or university colleges' worked in the upper-tier services (where the 'good' jobs are more likely to be found), compared to only half of Canada's employed.[24] In fact, the entire social work, law, medicine/dentistry, and M.S.W./M.Nursing graduating class were working in the upper-tier services. Fine and performing arts and engineering students were the least likely to be in the upper tier services (52% and 40%, respectively), although engineering graduates had very high representation (55%) in the goods-producing sector.

[24] Statistics Canada 2001. Labour Force Historical Review 2000. Cat. No. 71F004XCB as cited in Krahn, H. and G. Lowe (2002) Work, Industry, and Canadian Society (4th Ed), Scarborough: Nelson.

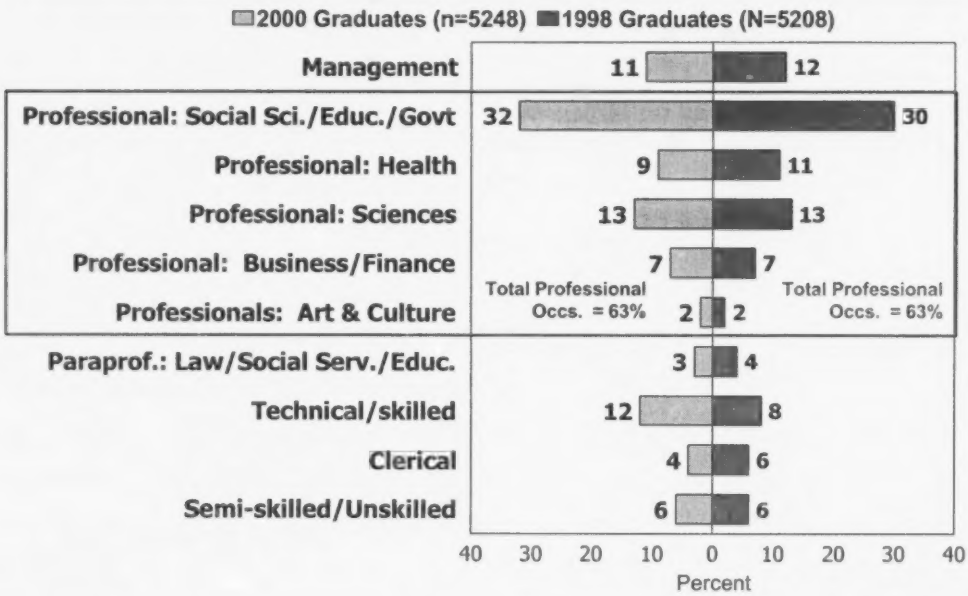
Table 5: Industry Distribution by Field of Study
Current Non-students Only

Field of Study	Industry[1] Goods-producing Sector	Upper-tier Services	Lower-tier Services
TOTAL	**12**	**78**	**10**
Undergraduate Arts & Science	***15***	***68***	***17***
Fine & Performing Arts	8	52	41
Social Sciences	9	76	15
Humanities	8	63	28
Math/Physical Sciences	26	69	5
Biological Sciences	9	75	16
Natural Resource Sciences	31	61	9
Undergraduate Professional	***12***	***80***	***8***
Business/Commerce	16	72	12
Education	1	97	3
Phys.Ed/Kinesiology	5	63	32
Engineering	55	40	5
Nursing	<1	99	1
Other Health Professions	1	75	24
Social Work	0	100	0
Professional 2nd Degree	***0***	***100***	***0***
Law	0	100	0
Medicine/Dentistry	0	100	0
Graduate Degree	***10***	***86***	***3***
M.A.	5	83	12
M.Ed.	2	97	1
M.Sc./M.Eng.	16	83	2
M.B.A.	23	72	5
M.S.W./M.Nursing	0	100	0
Ph.D.	6	92	2

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Industry categories are based on the 2-digit North American Industry Classification System (NAIC) codes which have been grouped into three broad categories.

If we look at the occupational distribution of recent graduates, we can learn more about the kinds of jobs students obtain from a slightly different perspective. The National Occupational Classification (NOC) scheme used in this analysis allows distinctions to be made on the basis of general skill requirements, and between professional, managerial, technical, and clerical occupational levels. Figure 21 shows that one in ten (11%) graduates were in management occupations, but almost six times as many (63%) had obtained jobs as professionals, with most of these concentrated in the social sciences, education, and government (32%). By contrast, a much smaller proportion of the sample of non-students were working in the other occupations listed in Figure 21. The figure also illustrates very little over-time change in the occupations obtained by 1998 and *2000 graduates*, although a slightly greater percentage were in technical / skilled jobs in 2002 than was the case for the 2000 survey (up from 8% in 2000 to 12% in 2002).

Figure 21: Occupational Distribution [1]
2000 and 1998 Graduates Compared
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Occupational Categories are based on 4-digit National Occupation Classification (NOC) codes.

Table 6 presents the occupational distribution of graduates collapsed into four broad categories -- management, professional, technical / paraprofessional / skilled, and semi-skilled / unskilled -- by field of study, for both the 2002 and 2000 surveys. Beginning with the results for *2000 graduates*, 24% of recipients of *graduate degrees* were working in management positions, with M.B.A. graduates the most likely (57%) to be in such a job. As we would expect, almost all (97%) of *professional 2nd degree* graduates were working in professional occupations, as were a significant portion of *undergraduate professional* (74%) and *graduate degree* (66%) sample members. While *undergraduate arts and science* graduates were also most likely to be working as professionals (41%), 29% were working in technical / paraprofessional / skilled jobs and 22% in semi-skilled / unskilled jobs. With only a few minor exceptions, these patterns in occupational distribution across fields of study are very similar to those found among the *1998 graduates*. Two of the more positive exceptions include the shift among humanities and physical education / kinesiology graduates from semi-skilled to professional occupations. While 36% of humanities and 27% of physical education / kinesiology graduates were working in semi-skilled / unskilled jobs in 2000, these rates reduced to 29% and 17%, respectively. At the same time, just under one-third (32%) of humanities graduates were working as professionals in 2000, but by 2002 this figure rose to 40%, and among physical education / kinesiology graduates rose from 38% to 46%.

Table 6: Occupational Distribution[1] by Field of Study
2000 and 1998 Graduates Compared
Current Non-students Only

	Percent							
	Management		Professional		Technical/Para-professional/Skilled		Semiskilled/ Unskilled	
Field of Study	2000	1998[2]	2000	1998	2000	1998	2000	1998
TOTAL	**11**	**12**	**64**	**63**	**15**	**14**	**10**	**12**
Undergraduate Arts & Science	***8***	***11***	***41***	***40***	***29***	***24***	***22***	***25***
Fine & Performing Arts	5	11	40	38	27	25	29	27
Social Sciences	12	13	34	33	31	28	23	26
Humanities	10	13	40	32	21	19	29	36
Math/Physical Sciences	4	9	65	67	20	14	11	10
Biological Sciences	4	8	31	35	38	28	28	28
Natural Resource Sciences	8	11	43	44	35	26	14	19
Undergraduate Professional	***9***	***9***	***74***	***74***	***10***	***10***	***7***	***8***
Business/Commerce	22	26	50	48	14	8	15	17
Education	2	2	90	87	4	8	4	3
Phys.Ed/Kinesiology	13	10	46	38	24	24	17	27
Engineering	6	6	82	86	9	7	3	2
Nursing	4	2	94	93	2	3	0	2
Other Health Professions	4	2	76	79	19	18	1	1
Social Work	6	6	63	59	30	33	2	3
Professional 2nd Degree	***1***	***2***	***97***	***93***	***2***	***4***	***0***	***1***
Law	1	3	96	91	3	6	0	1
Medicine/Dentistry	0	0	100	98	0	0	0	2
Graduate Degree	***24***	***22***	***66***	***67***	***9***	***9***	***2***	***2***
M.A.	17	15	68	62	12	17	3	5
M.Ed.	27	31	66	58	7	10	1	1
M.Sc./M.Eng.	7	12	77	79	14	8	3	2
M.B.A.	57	48	36	45	5	5	2	2
M.S.W./M.Nursing	15	16	63	65	23	16	0	3
Ph.D.	10	10	86	86	3	4	1	1

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey.

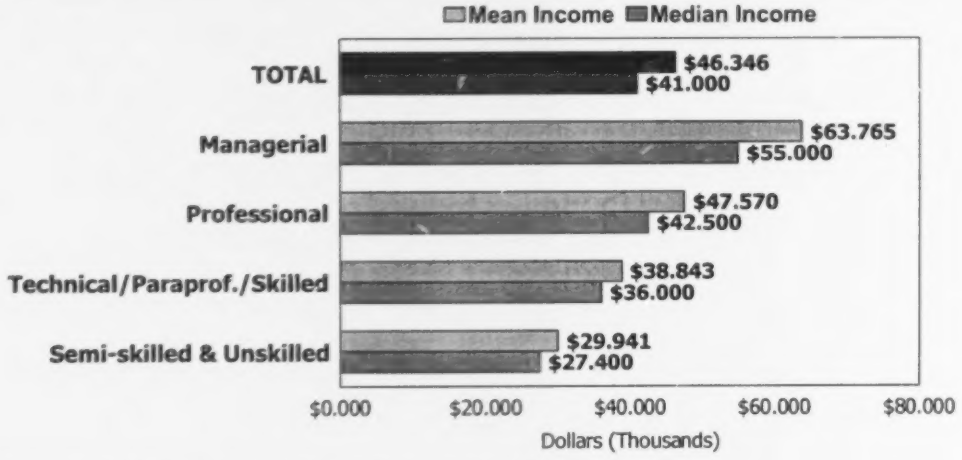
[1] Occupation is based on 4-digit National Occupation Classification (NOC) codes which have been combined into four broad groups.

[2] The 1998 sample of graduates includes 14 respondents from Nazarene University College.

E.4 Income and Fringe Benefits

Figure 22 demonstrates that in 2002, employed non-students from the university and university college graduating *class of 2000* reported an average (mean) gross yearly income from all jobs combined (if respondent had more than one job) of $46,346 (monthly mean income of $3,744). A small number of graduates, however, reported very high incomes skewing the mean upward so that the median (mid-point in the income distribution) yearly income is somewhat lower at $41,000. This is substantially higher than Alberta labour force as a whole ($22,700 in 2000).[25]

Figure 22: Total Mean and Median Yearly Income from all Jobs [1] by Occupation[2]
Current Non-students only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Gross (before deductions) yearly income from all jobs combined, including full-time and part-time.
[2] Job categories are based on 4-digit National Occupational Classification (NOC) codes which have been collapsed into four broad groups.

Figure 22 also displays the mean and median yearly incomes for each of the four broad occupational categories. Two years after completing their degrees, the 11% of non-students in management occupations earned, on average, $63,765 a year and the 64% of graduates in professional jobs earned $47,570. The smaller proportion of graduates working in technical /

[25] Statistics Canada (2002) The Daily, Wednesday, July 10, 2002

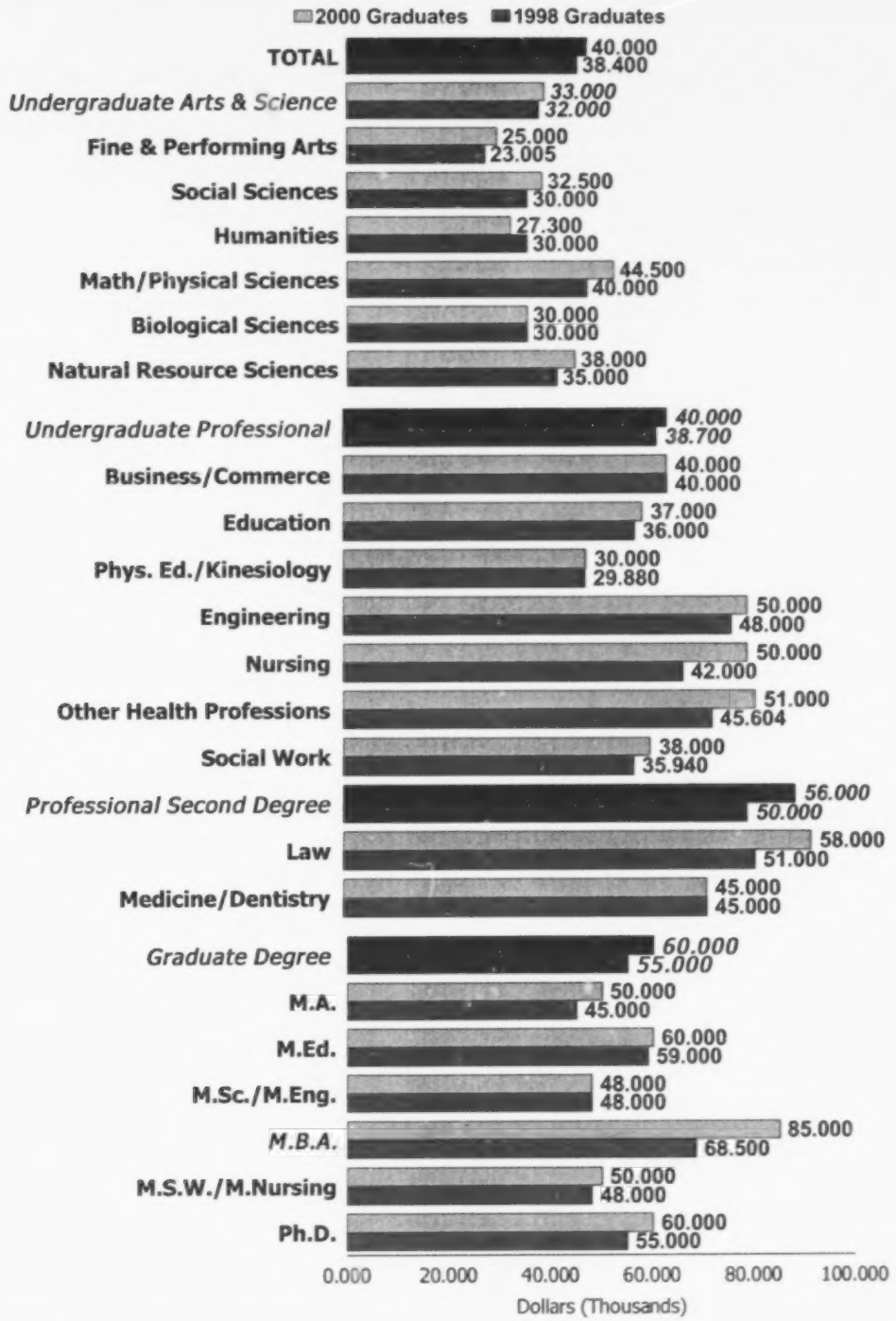
paraprofessional / skilled or semi-skilled / unskilled jobs reported somewhat lower annual incomes.

Figure 23 presents the median yearly income from graduates' main job by field of study, for both the 2000 and 2002 samples. When comparing across time, it is more appropriate to use median income since it takes only a few very high incomes to strongly influence the mean.[26] We also limit the comparative analysis of income to graduates' main job because of a few inconsistencies in the 2000 data set on the incomes reported for individuals working in a second job.

Since M.B.A. graduates were the most likely to be working in management positions (Table 6), the most lucrative of all occupations (Figure 22), and were very unlikely to be working part-time (Table 4), it is not surprising that they earn substantially higher incomes on average (Figure 23). In contrast, the higher representation of *undergraduate arts and science* graduates in lower-level and temporary jobs means that they earned somewhat lower yearly incomes than the average. *Undergraduate professional* graduates earned slightly higher incomes ($40,000) with engineering ($50,000) and other health professions ($51,000) reporting the highest median incomes from their main job. Recipients of *professional 2nd degrees*, the large majority of whom were working in professional jobs, earned a median income of $56,000 per year.

[26] This is particularly the case when examining income by field of study where in some cases small sub-sample sizes are more vulnerable to the influence of exceptionally high incomes. Also, median yearly incomes are used when comparing the 2002 and 2000 sample members since the incomes reported by 1998 graduates contained a much greater number of very high incomes than the *class of 2000*.

Figure 23: Median Yearly Income from Main Job[1] by Field of Study
2000 and 1998 Graduates Compared
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Gross (before deductions) yearly income from main job only, including full-time and part-time

When comparing these figures to the median incomes reported by *1998 graduates* shown in Figure 23, we see a slight increase over time. Whereas the *class of 1998* earned $38,400 on average, this figure rose to $40,000 among the *class of 2000*. Most of the difference, however, can be accounted for by income increases reflecting inflation, assuming a rate of inflation of around 2.5% in each year between 2000 and 2002. Still, over-time increases in income can be observed for all fields of study with the exception of humanities. M.B.A. graduates, who were already earning the highest incomes in 1998, increased their earnings by $16,500, the largest dollar growth in earnings observed in Figure 23. The largest percentage increase (of 19%), however, occurred among nursing graduates, whose earnings increased from $42,000 to $50,000. The increase among nurses reflects the results of intense bargaining for hourly rate increases in 2000.[27] In contrast, much smaller increases are observed among *undergraduate arts and science* students, who occupy the lowest end of the pay scale. Hence, to some extent, the results in Figure 23 demonstrate that incomes have increased the most for graduates who are already in higher paying occupations and the least among the lowest earning groups.[28]

In the Canadian labour market, the female-to-male earnings ratio, although rising for several decades, tapered off in the past 10 years. In 1997, women earned 73 cents for every dollar earned by men, for a total increase of one cent since 1992.[29] Since the female-male earnings ratio is typically higher among younger and better-educated workers, we would expect the ratio for the sample of graduates to be higher than 0.73. Indeed, Table 7 reveals that female graduates earned 88 cents for every dollar earned by male graduates in full-time main jobs. Specifically, female graduates earned an average (median) income of $39,510 in 2002 compared to $45,000 among their male counterparts. But a few fields of study defy the total sample results. For example, in fine and performing arts and M.A. programs, female graduates earned more than male graduates (ratios of 1.07 and 1.02, respectively). In other cases, the ratio is somewhat lower (e.g. other health professions at 0.77 and M.B.A. at 0.78).

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[27] In 2000, starting rates for Registered Nurses were $21.54 an hour compared to $24.70 in 2002, for a percentage increase of 14% in three years (United Nurses of Alberta Website: www.una.ab.ca).

[28] These findings support the well-documented polarization thesis whereby the gap between the 'good', high-earning jobs and the 'bad', low-earning jobs has increased in the past decade.

[29] These figures are for full-time, full-year workers only. When including part-time and temporary workers, the female/male ratio in earnings reduces to 63/100. Statistics Canada (2002), Perspectives on Labour and Income, Volume 3: 2. Catalogue No. 75-001-XIE.

Table 7: Median Yearly Income from Main Job (Full-time only) by Field of Study by Gender; 2000 and 1998 Graduates Compared

Current Non-students Only

	Dollars ($)					
	Median Yearly Income[1]					
	2000 Graduates			1998 Graduates[2]		
Field of Study	Male	Female	Female/ Male Ratio	Male	Female	Female/ Male Ratio
TOTAL[3]	**45,000**	**39,510**	**0.88**	**43,000**	**37,000**	**0.86**
Undergraduate Arts & Science	***38,375***	***32,000***	***0.83***	***38,000***	***30,000***	***0.79***
Fine & Performing Arts	24,500	26,160	1.07	25,000	24,500	0.98
Social Sciences	36,000	32,000	0.89	35,000	30,000	0.86
Humanities	31,000	30,000	0.97	35,000	29,560	0.84
Math/Physical Sciences	46,000	40,000	0.87	43,000	38,000	0.88
Biological Sciences	36,500	30,000	0.82	34,000	30,000	0.88
Natural Resource Sciences	40,000	35,000	0.88	40,000	33,000	0.83
Undergraduate Professional	***43,750***	***40,000***	***0.91***	***43,000***	***37,200***	***0.87***
Business/Commerce	42,120	39,000	0.93	45,000	38,000	0.84
Education	40,000	37,000	0.93	38,000	36,000	0.95
Phys.Ed/Kinesiology	35,000	29,560	0.84	35,000	29,880	0.85
Engineering	50,000	50,000	1.00	49,000	45,000	0.92
Nursing	58,000	50,000	0.86	--	45,000	--
Other Health Professions	65,000	50,000	0.77	55,000	45,000	0.81
Social Work	--	37,750	--	--	36,000	--
Professional 2nd Degree	***59,000***	***51,800***	***0.88***	***50,000***	***48,230***	***0.96***
Law	60,000	56,000	0.93	54,500	50,000	0.92
Medicine/Dentistry	47,000	42,000	0.89	44,500	44,000	0.99
Graduate Degree	***65,000***	***59,500***	***0.92***	***60,000***	***53,000***	***0.88***
M.A.	49,000	50,000	1.02	52,000	41,000	0.79
M.Ed.	63,000	60,000	0.95	63,000	59,500	0.94
M.Sc./M.Eng.	52,000	48,000	0.92	50,000	48,000	0.96
M.B.A.	96,000	75,000	0.78	75,000	63,500	0.85
M.S.W./M.Nursing	--	52,500	--	--	49,000	--
Ph.D.	62,000	60,000	0.97	58,000	55,000	0.95

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Gross (before deductions) yearly income from main job only.

[2] The 1998 sample of graduates includes 14 respondents from Nazarene University College.

[3] Categories with less than 15 cases reporting are not presented, but are included in calculation of the totals.

Table 7 also documents the gender ratio in income for the 2000 employment survey of *1998 graduates*. The female/male wage ratio changed very little between 2000 and 2002 (from 0.86 to 0.88), with most fields of study exhibiting a similar trend. A positive exception is observed among M.A. graduates where the ratio increased from 0.79 to 1.02 (for a 0.23 increase between 2000 and 2002). Graduates from medicine/dentistry and M.B.A. programs underwent, in contrast, the largest decreases in the gender ratio in earnings (from 0.99 to 0.89 for medicine/dentistry graduates and from 0.85 to 0.78 among M.B.A. graduates).[30]

The *class of 2000* not only earned more money, on average, than the *class of 1998*, but they are more likely to receive a range of fringe benefits as part of their employment package. Figure 24 demonstrates that 78% of 2002 non-students received extended health benefits and a dental plan, up from 75% in 2000. Two-thirds reported having an employer-sponsored retirement or pension plan (up from 63% in 2000) and 7 in 10 graduates had maternity/paternity benefits over and above those provided by government Employment Insurance programs. These figures are somewhat higher than the national average -- for the Canadian labour market as a whole in the year 2000, 59% had extended health coverage, 56% a dental plan, 53% a retirement or pension plan, and 46% paid maternity/paternity leave.[31]

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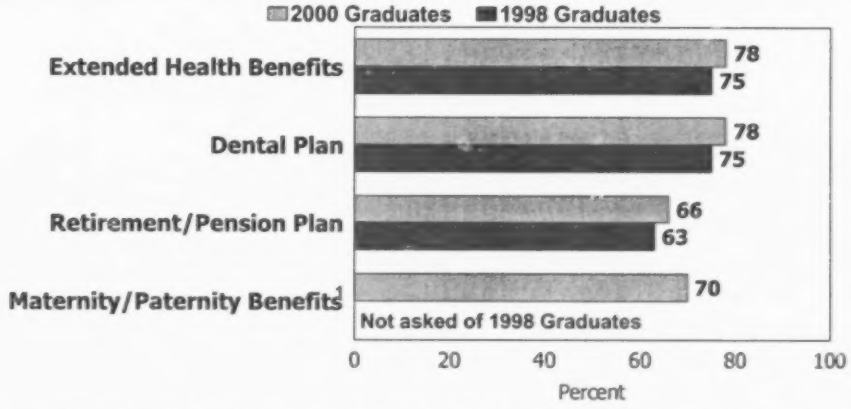
[30] Care must be taken when interpreting the results for medicine/dentistry graduates because of small sub-sample sizes (ranging from 17 to 21 respondents).

[31] See Figure 3.1 in Krahn, H. and G. Lowe(2002) Work, Industry & Canadian Society, Scarborough: Thomson

Figure 24: Fringe Benefits in Main Job
2000 and 1998 Graduates Compared
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Only 85% (4771) of eligible respondents answered the question on maternity/paternity benefits.

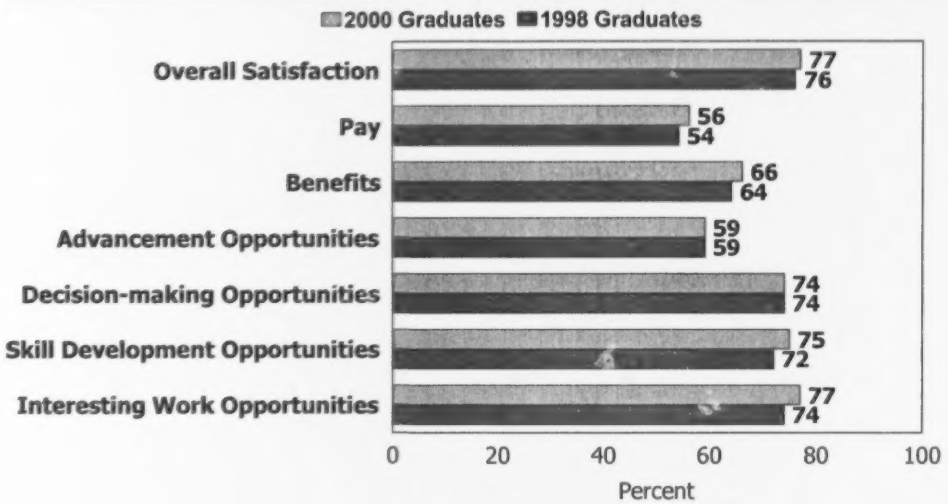
E.5 Job Satisfaction

All employed respondents were asked a series of seven questions about their satisfaction with various aspects of their current main job. Satisfaction was measured on a five-point scale with '1' meaning "very dissatisfied" and '5' meaning "very satisfied." Figure 25 presents the percentage of *2000* and *1998 graduates* who reported that they were 'satisfied' (response scores of '4' or '5') with their job (see *Appendix 3*, Table 5 for results by field of study).

Given that *2000 graduates* are making more money and receiving more benefits than *1998 graduates*, are they more satisfied with their jobs? Figure 25 reveals only a marginal increase in satisfaction levels between the two cohorts. More than three-quarters (77%) of (non-student) graduates reported that they were satisfied with their job overall, virtually the same proportion that was satisfied in 2000. An increase of two percentage points can be observed in satisfaction with extrinsic (material) rewards of pay and benefits to 56% and 66%, respectively. Similar proportions reported that they were satisfied with advancement opportunities (59% for both cohorts), but we observe a somewhat greater level of satisfaction with the remaining three

intrinsic rewards (psychological) listed in Figure 25. Thus, employed non-students are somewhat more satisfied with the psychological or intrinsic rewards they obtain from their main job than they are with the material or extrinsic benefits -- a pattern mirrored by the Canadian working population as a whole.

Figure 25: Job Satisfaction [1]; 2000 and 1998 Graduates Compared
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Refers to satisfaction with main job only. Respondents answered on a five-point scale with '1' representing "very dissatisfied" and '5' representing "very satisfied." Scores of '4' and '5' are combined and presented in this figure.

Recent research has found that job satisfaction is highly influenced by individual's expectations (work orientations) of the kinds of rewards and benefits they should be receiving, given their age, gender, and education.[32] A few examples from *Appendix 3*, Table 5 illustrate the importance of considering expectations when measuring job satisfaction. Graduates in nursing and other health professions were more likely than the highest income-earning M.B.A. graduates to report that they were satisfied with their pay. Seventy-one percent of M.B.A. graduates were satisfied with the pay they received in their main job, whereas 83% of nursing and other health

profession graduates responded positively to this question. Education graduates, who were earning an annual income only slightly below average ($37,000), were the least likely to report that they were satisfied with their pay (37%). Still, some parallels between income/benefits earned and satisfaction with these rewards can be observed. For example, *undergraduate arts and science* sample members, who are the lowest-earning and least likely to be receiving fringe benefits, report the lowest levels of satisfaction with pay and benefits.

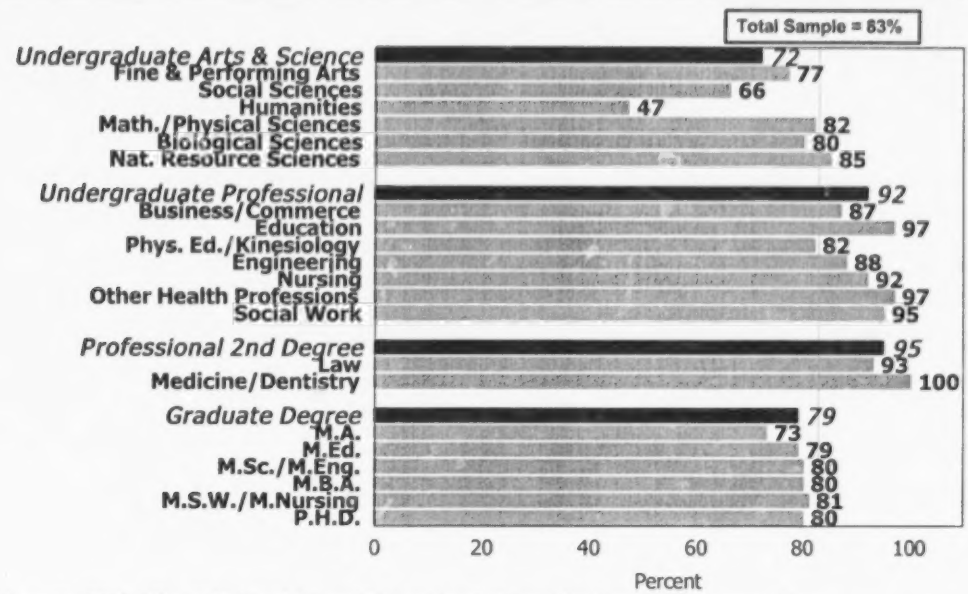
[32] To account for expectations, the most current job satisfaction studies ask about the importance of various aspects of the job and measure this against the extent to which the job offers these rewards and opportunities.

F. EDUCATION-TO-WORKFORCE TRANSITIONS

Having examined the labour market outcomes among employed non-students, we now turn to an analysis of how graduates experience the transition from university / university college into the labour market. Included in this section is a presentation and discussion of graduates' perceptions of the importance of job-related skill acquisition, the fit between their jobs and programs of study and an assessment of under-employment. Field of study results for 'easy' adjustment to the work force and graduates' use of skills, knowledge, and ability on the job are presented in Tables 6 and 7 of *Appendix 3*, with no further discussion.

When interpreting responses to questions about education-job fit and measures of under-employment, it is worth considering why students entered their particular program of study to begin with. Eight-three percent of employed non-students indicated that, when first enrolling in their program of study, it was 'important' or 'very important' that they "acquire the skills needed for a particular job" (Figure 26). But less than three-quarters (72%) of those who had completed *undergraduate arts and science* programs responded in this manner. Graduates in *undergraduate professional* programs and particularly individuals in *professional 2nd degree* programs were more likely to indicate that job-related skill acquisition was an important factor in their choice of programs. By contrast, *graduate* students were, on average, less likely to report that job-related skills were important. Clearly, not all students choose to enter into their programs of study to acquire specific labour market skills. This conclusion is important to keep in mind when examining the education-to-workforce transition measures in the remainder of this section since these indicators do not incorporate benefits of receiving a higher education not directly related to the labour market (e.g. self-growth, greater awareness of the world).

Figure 26: Percent of Graduates Reporting Job-Related Skill Acquisition Important in Decision to Enroll in Program of Study by Field of Study
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey.
[1] Based on responses to the question: "When you decided to enroll in [your] program, how important was it for you to acquire the skills necessary for a particular job?" Responses are based on a 4-point scale with '1' representing "not at all important" and '4' representing "very important." Scores of '3' and '4' are combined and presented in figure.

Table 8 highlights responses to three similarly-worded questions about the relatedness between graduates' current main job and their program of study by field of study. We can view these items as measures of the fit or lack of fit between graduates' education and their current jobs. Beginning with total sample responses, 73% of employed non-students reported that their job was related to their university or university college training in terms of subject-area knowledge. An even higher proportion (83%) reported congruence between their current main job and general skills and abilities attained in their education. Seventy-five percent reported an overall fit between their main job and program of study. Considerable variation in responses can be observed by field of study with *undergraduate arts and science* students being the least likely to report a positive fit between their education and jobs, and *professional 2nd degree* students reporting the closest fit.

Table 8: Fit Between Current (Main) Job and Program of Study by Field of Study

Current Non-students Only

Field of Study	Percent Related[1]		
	Subject-area Knowledge	General Skills & Abilities	Overall Fit
TOTAL	**73**	**83**	**75**
Undergraduate Arts & Science	***51***	***72***	***51***
Fine & Performing Arts	55	68	51
Social Sciences	43	70	44
Humanities	36	67	39
Math/Physical Sciences	67	84	69
Biological Sciences	43	68	45
Natural Resource Sciences	66	71	64
Undergraduate Professional	***80***	***86***	***82***
Business/Commerce	74	83	75
Education	82	87	88
Phys.Ed/Kinesiology	63	71	59
Engineering	74	85	79
Nursing	89	89	89
Other Health Professions	99	96	97
Social Work	91	91	93
Professional 2nd Degree	***97***	***94***	***98***
Law	96	91	98
Medicine/Dentistry	100	100	100
Graduate Degree	***87***	***91***	***87***
M.A.	82	89	85
M.Ed.	86	88	85
M.Sc./M.Eng.	84	92	84
M.B.A.	90	92	88
M.S.W./M.Nursing	88	95	90
Ph.D.	92	93	92

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Respondents were asked to assess the fit between their current (main) job and their program of study in terms of "subject area knowledge", "general skills and ability" and "overall" fit on a four-point scale with '1' representing "*not at all related*" and '4' representing "*very related.*" Scores of '3' and '4' are combined and presented in this table.

Given these variable outcomes in program-to-job fit, do similar patterns emerge when examining the under-employment of the sample? Given the looser fit between education and occupation among *undergraduate arts and science* students, for example, does this mean that they are more likely to be under-employed (or at least perceive that they are under-employed)? With only a few exceptions, the answer is 'yes.' Again, we observe from Table 9 that *undergraduate arts and science* students are the least likely to be working in a job requiring a university degree (50%), and are more likely to feel that they are over-qualified (39%) and earn less than they deserve (53%). Aside from these variations, the results in Table 9 suggest that most graduates have found jobs that match their credentials.

The combined results from Tables 8 and 9 provide support for the notion that *undergraduate arts and science* graduates experience the most difficult education-to-labour market transitions.[33] One must be careful, however, not to conclude that this means these graduates are not being provided with job-appropriate skills, at least according to the data provided in this study. Rather, the results make the point that the skills, knowledge and abilities brought to the labour market by *undergraduate arts and science* studies are not being fully utilized by employers.

[33] Results presented in *Appendix 3*, Table 5*: Percent Reporting 'Easy' Adjustment to the Work Force by Field of Study* provide further support for this statement. While only 70% of undergraduate arts and science students indicated that their adjustment was "somewhat easy" or "easy", 78% of undergraduate professional, 76% of professional 2nd degree, and 87% of graduate degree recipients responded similarly.

Table 9: Measures of Under-employment by Field of Study
Current Non-students Only

Field of Study	Percent		
	University Degree Required[1]	Feel Over-Qualified[2]	Earn Less than Deserve[3]
TOTAL	**70**	**26**	**50**
Undergraduate Arts & Science	***50***	***39***	***53***
Fine & Performing Arts	30	43	59
Social Sciences	45	41	56
Humanities	44	43	52
Math/Physical Sciences	65	30	47
Biological Sciences	49	47	62
Natural Resource Sciences	64	32	44
Undergraduate Professional	***76***	***21***	***49***
Business/Commerce	63	33	47
Education	90	17	69
Phys.Ed/Kinesiology	65	35	60
Engineering	88	15	27
Nursing	52	10	23
Other Health Professions	90	14	31
Social Work	73	9	56
Professional 2nd Degree	***98***	***4***	***28***
Law	98	6	29
Medicine/Dentistry	100	0	26
Graduate Degree	***83***	***24***	***47***
M.A.	78	18	52
M.Ed.	83	19	55
M.Sc./M.Eng.	87	28	40
M.B.A.	71	29	37
M.S.W./M.Nursing	90	28	41
Ph.D.	93	21	57

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

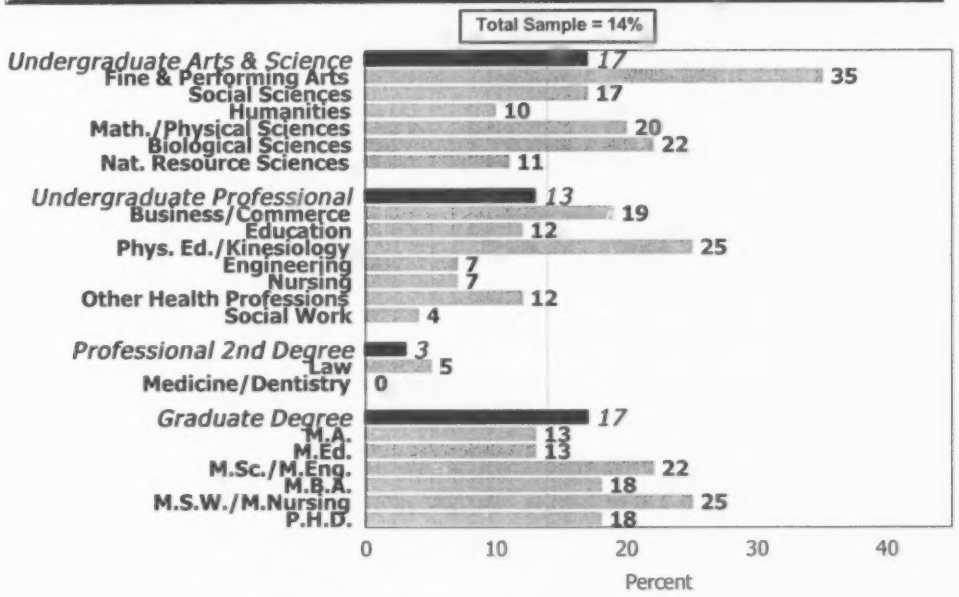
[1]Based on responses to the question: "Was a university degree required when you were selected for your (main) job?"

[2]Based on responses to the question: "Given your education, training and experience, do you feel that you are overqualified for your (main) job?"

[3]Based on responses the to question: "Given your education, training and experience, do you feel that you are earning more than you deserve, about the right amount or less than you deserve?"

We can also assess the education-job fit by examining whether or not graduates who are in jobs that require a university degree and that are related to their program of study still feel overqualified for their job. To some extent, this analysis operates as a 'magnifying lens' of the education-to-workforce transitions of the *class of 2000* since it is designed to pick up the presence of under-employment that might otherwise be missed. Figure 27 presents the results of this analysis and exhibits, for the most part, the same pattern in variations between degree levels. Both levels of professional graduates in program-related jobs that require a university degree are the least likely to report that they are over-qualified for their main job. And while the higher proportions of *undergraduate arts and science* students responding in this manner is as we would expect given the earlier findings, perhaps the most surprising result is the relatively high levels of under-employment among graduate degree recipients. One-quarter of M.S.W./M.Nursing graduates, for example, who were in jobs related to their program of study and that required a university degree, still felt over-qualified. It should also be noted, however, that these generalizations between degree levels mask a fair amount of within-degree variation observed in Figure 27.

Figure 27: Percent of Graduates Feeling Overqualified for (main) Job [1] Among those in Job Related to Program of Study [2] and in Job Requiring University Degree[3] by Field of Study; Current Non-students Only (n=3111)



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] 'Yes' responses to the question: "Given your education, training and experience, do you feel that you are overqualified for your (main) job?"

[2] Respondents answered on a 4-point scale with '1' representing "*not at all related*" and '4' representing "*very related*." Scores of '3' and '4' are combined and presented in this figure.

[3] Yes' responses to the question: "Was a university degree required when you were selected for your (main) job?"

G. CURRENT STUDENT ANALYSES

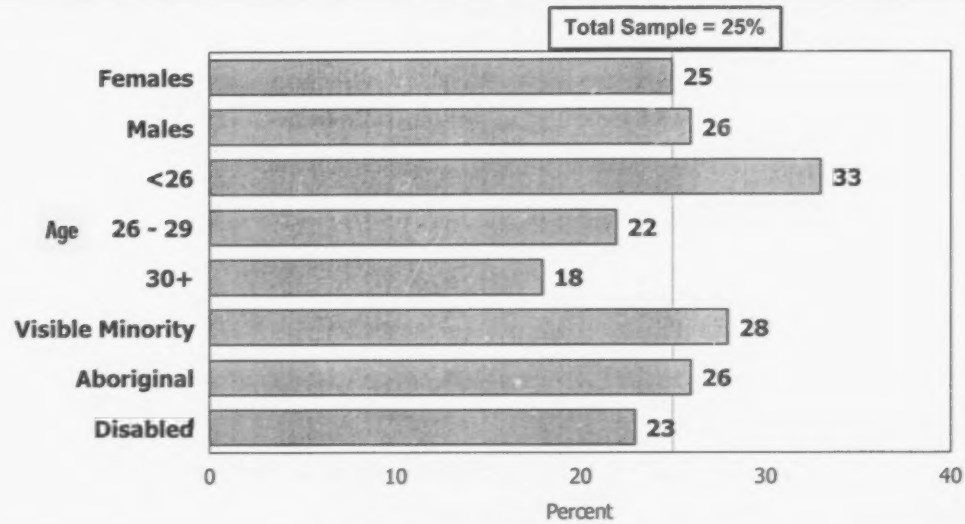
This section of the report provides a fairly extensive examination of the current student population, who have been, until now, removed from this analysis of labour market outcomes. *Section G.1* presents the socio-demographic characteristics of the current student population, and the types of programs entered into by students. *Section G.2* examines field of study variations among current students, compares the type of program of study from which students graduated in *2000* and their current program of study, and concludes with a comparison of levels of satisfaction with program of study between current students and non-students. *Section G.3* provides a review of the labour market activities among the current student population.

G.1 Post-graduation Educational Activity

Of the 7,566 graduates participating in this study, 25% indicated that they were currently enrolled in a post-secondary program for credit.[34] Figure 28 demonstrates that while males and females were equally likely to be continuing or returning to their studies, younger graduates were much more likely than older graduates to be current students. The visible minorities, aboriginals and disabled graduates in the sample were just as likely, on average, to be continuing their post-secondary education.

[34] A further 37% of the total sample of graduates had been enrolled in a post-secondary program for credit at some point since graduating in 2000 and 38% indicated that they had taken courses to improve their employability, at some point since graduating.

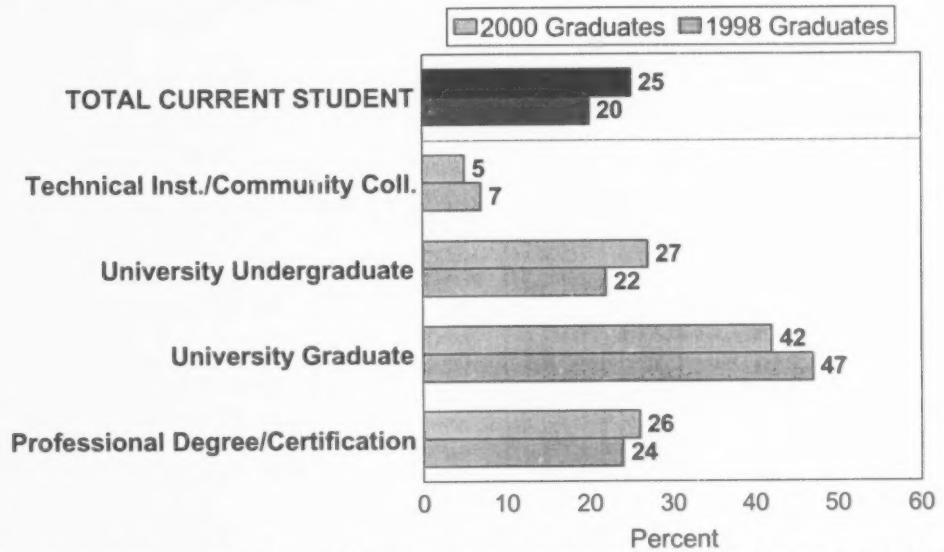
Figure 28: Percent Current Student by Socio-demographic Characteristics



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] 'Yes' responses to the question "Do you consider yourself to have a disability that may disadvantage you in the labour market?"

Figure 29 demonstrates that, two years after graduating, 2002 respondents were more likely to be current students than the 2000 sample. While one-fifth of the *class of 1998* reported that they were currently enrolled in a post-secondary program for credit, one-quarter of the *2000* cohort responded similarly. In terms of type of program entered into by current students (Figure 29), a somewhat greater percentage of *2000 graduates* than *1998 graduates* were in university undergraduate programs (27%, up from 22%). Of note is the fact that only 5% of the current student population were enrolled in a technical institution or community college. This low participation rate contrasts with anecdotal and media stories that sometimes depict university graduates as having to enroll in non-university post-secondary institutions because their university education rendered them ill-equipped for the skill demands of the labour market.

Figure 29: Type of Current Post-secondary Program 2000 and 1998 Graduates Compared

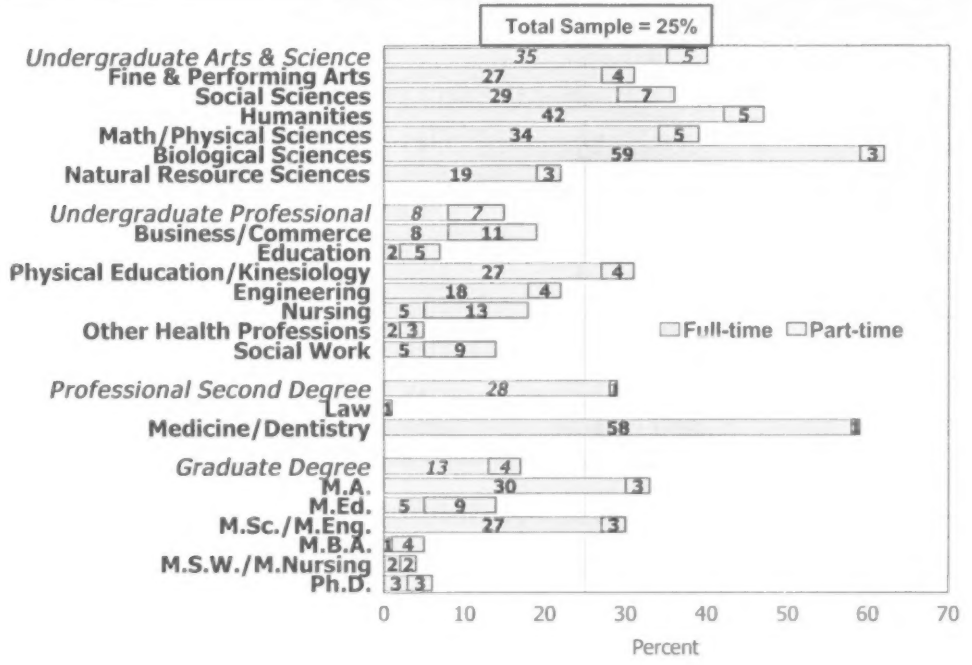


Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

G.2 Education-related Determinants of Post-graduation Educational Activity

Are there certain fields of study where graduates are more likely to continue their education? Figure 30 provides the percentage of graduates who are current students for each field of study and demonstrates that *undergraduate arts and science* graduates are the most likely to be pursuing further educational credentials. A major exception to this finding is the very high rate of current students among medicine/dentistry graduates (59%), most of whom are in residency programs. Figure 30 also shows that the majority of current students are enrolled in their programs on a full-time basis (77% of current students are full-time).

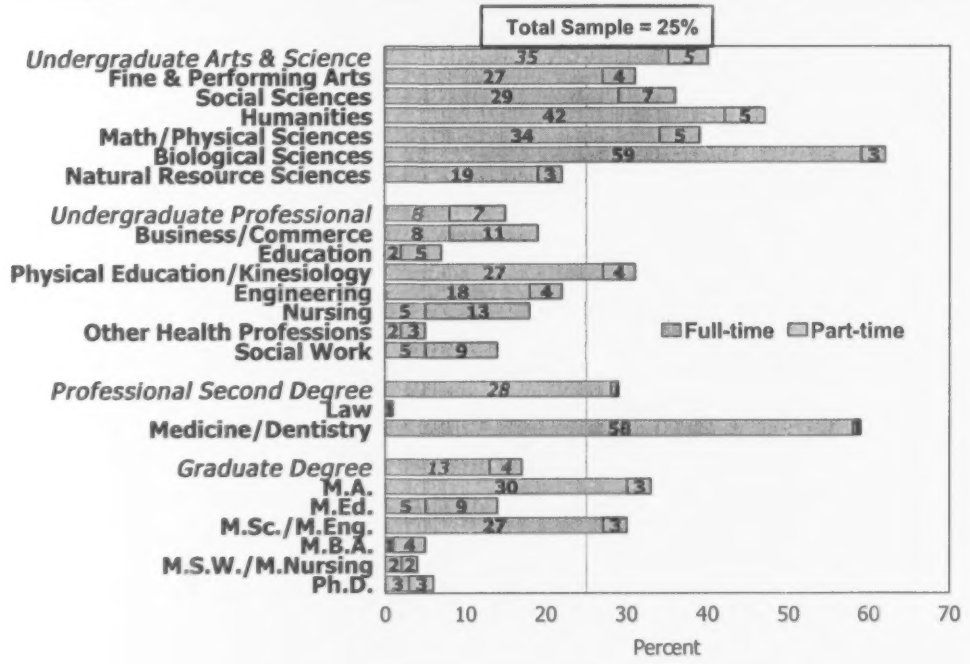
Figure 30: Percent Current Student by Field of Study



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

In the 2002 survey, immediately after asking students to select the type of program they were enrolled in (e.g. university undergraduate), they were prompted to respond to a new open-ended question asking "what specific program are you enrolled in?" Verbatim responses were subsequently coded into the same field of study and degree level categories that are used in the analyses presented throughout this report. Unfortunately, because small sub-samples prevent us from presenting these results by field of study, presentation of the results from this question are for the four broad degree level sub-samples only. Additionally, since most of the programs offered by technical institutions and community colleges do not fit into the degree-level system used, the 6% of students in technical institutions and community college programs are excluded from the analysis presented in Figure 31. This figure displays the program degree level that current students are enrolled in for each program degree level from which students graduated in *2000*. The results, therefore, provide an indication of whether or not graduates are moving up

Figure 30: Percent Current Student by Field of Study



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

In the 2002 survey, immediately after asking students to select the type of program they were enrolled in (e.g. university undergraduate), they were prompted to respond to a new open-ended question asking "what specific program are you enrolled in?" Verbatim responses were subsequently coded into the same field of study and degree level categories that are used in the analyses presented throughout this report. Unfortunately, because small sub-samples prevent us from presenting these results by field of study, presentation of the results from this question are for the four broad degree level sub-samples only. Additionally, since most of the programs offered by technical institutions and community colleges do not fit into the degree-level system used, the 6% of students in technical institutions and community college programs are excluded from the analysis presented in Figure 31. This figure displays the program degree level that current students are enrolled in for each program degree level from which students graduated in *2000*. The results, therefore, provide an indication of whether or not graduates are moving up

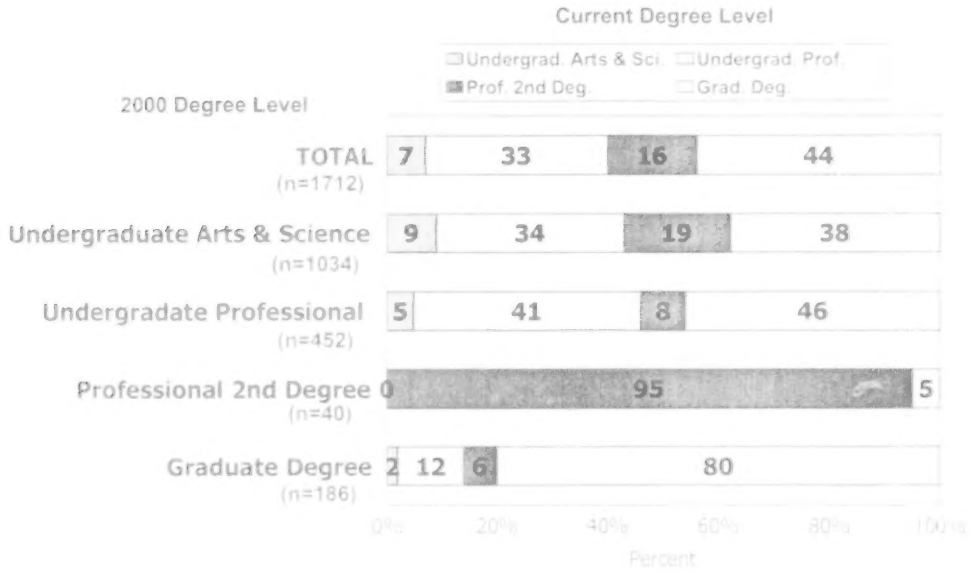
within the post-secondary system, building on their prior education, or perhaps moving into new directions of study altogether.

Beginning with the total sample results, 7% of students were currently enrolled in *undergraduate arts and science* programs, one-third in *undergraduate professional* programs, 16% in *professional 2nd degree* programs, and 44% in *graduate degree* programs. When comparing these current degree-level distributions to the degree-level distributions among the entire sample of the graduating *class of 2000*, we calculate upward movement within the system. For example, while 38% of the sample graduated with an *undergraduate arts and science* degree, only 7% of current students were participating at this level. Compared to the 15% of graduates who completed graduate degrees in *2000*, 44% of current students are in these more advanced programs.[35]

Moving down the figure, we see that, for each *2000* degree level, most current students were participating in *professional 2nd degree* or *graduate degree*. Continuing students who graduated in *2000* with an *undergraduate arts or science* degree (60% of all current students) are not very likely to be currently participating in *undergraduate arts and science* programs (9%), but are primarily enrolled in *undergraduate professional* programs (34%) or have moved up into *graduate* programs (38%). *Undergraduate professional* graduates appear to be continuing as *undergraduate professional* students (41%) or furthering their education in *graduate* programs (46%). Examples of the former include business /commerce graduates continuing in business / commerce programs and physical education graduates moving into education programs. Almost the entire group of current students from *professional 2nd degree* programs (in *2000*) remain as *professional 2nd degree* students, either in articling or residency programs. Student who left their university in *2000* with a *graduate degree* are largely continuing their education in other graduate programs. Most of these are in Ph.D. programs (n=130).

[35] The data provided in Figure 31 for the percentage of students in graduate programs differs from the percentage of students in university graduate programs presented in Figure 29 (42%) because of inconsistencies in the way students responded to question B6a.

Figure 31: 2000 Degree Level of Program [1] by Current Degree Level of Program [2]
Current Students Only (Excluding Tech/College Students)



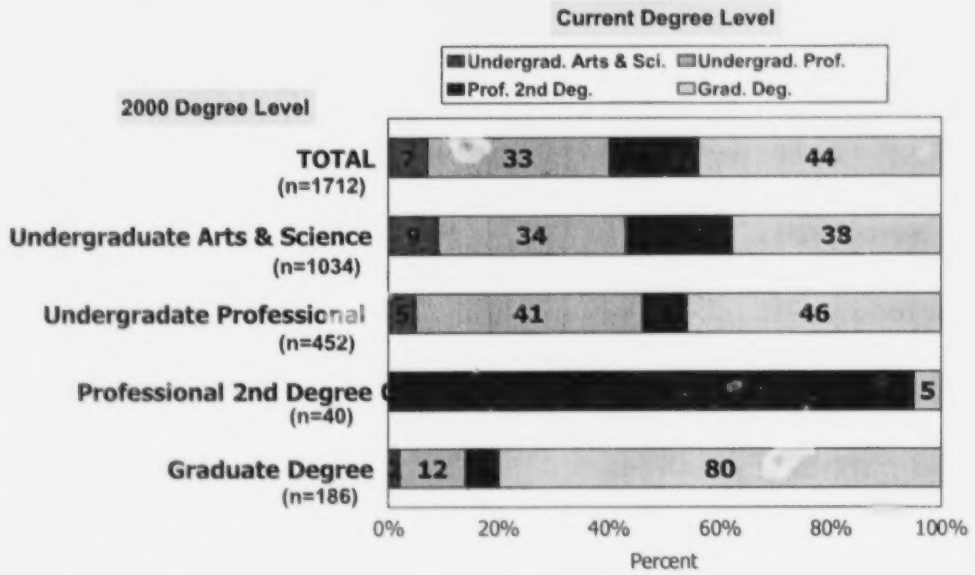
Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] *2000 Degree Level* is based on the field of study from which students graduated in *2000*, collapsed into the 4 degree levels.

[2] *Current Degree Level* is derived from open-ended responses about students' current program of study. These responses have been categorized in the same way as 'field of study' and then collapsed into the 4 degree levels.

Having looked at the kinds of programs and degree levels that the sample of *2000 graduates* are currently participating in, we now examine their levels of satisfaction with prior education. The intent of this analysis is to explore education-related reasons for why some graduates choose to continue or return to the post-secondary system while others exit the system altogether. If it is found, for example, that current students are less satisfied than current non-students with their program of study from which they graduated in *2000*, we might speculate that they pursued further education to attempt to get what they missed from the system earlier. Alternatively, if current students are more satisfied with their prior education this may be an indication that they continued their education precisely because of their earlier positive experiences in the system.

Figure 31: 2000 Degree Level of Program [1] by Current Degree Level of Program [2]
Current Students Only (Excluding Tech/College Students)



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] *2000 Degree Level* is based on the field of study from which students graduated in *2000*, collapsed into the 4 degree levels.
[2] *Current Degree Level* is derived from open-ended responses about students' current program of study. These responses have been categorized in the same way as 'field of study' and then collapsed into the 4 degree levels.

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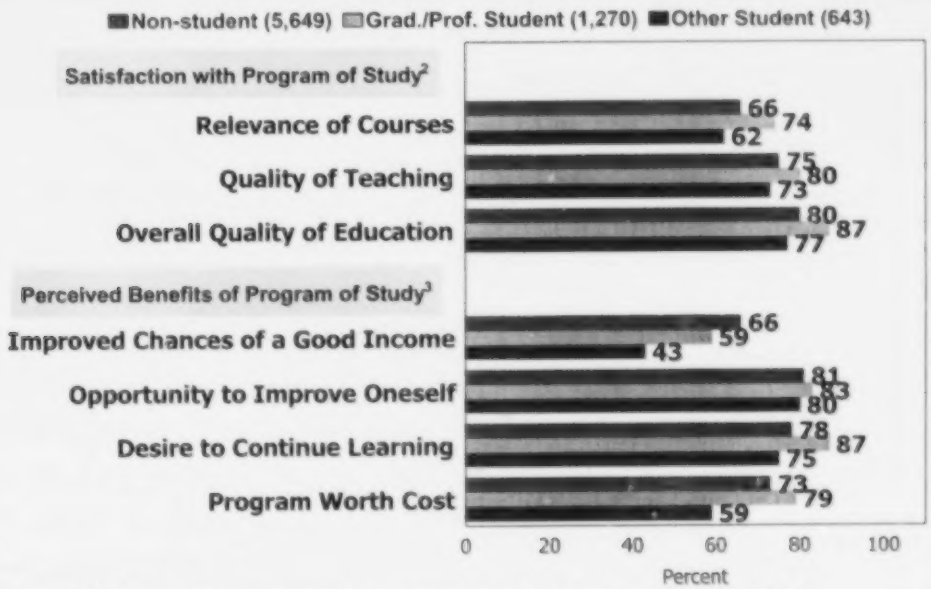
Figure 32 presents the seven core measures of program satisfaction for *non-students*, current *professional and graduate students* and for *other students* (including university undergraduate, technical institute and community college participants). We draw attention to two major observations about the figure. First, current *graduate and professional* students reported higher levels of satisfaction than current *non-students* for six of the seven measures. The largest difference between these two groups is observed for the question on "desire to continue learning": 87% of *professional / graduate* students indicated that their program of study provided them with "a desire to continue learning more, about this or other subjects" compared to only 78% of *non-students*. Hence, it may be that positive experiences with the university/university college system yield an interest in further learning by pursuing more advanced degrees.

Figure 32: Satisfaction Measures of Educational Experience by Current Student Status/Program Type[1]



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] *Graduate/Professional Students* includes respondents who are currently enrolled in a university graduate program, a university professional school program, or a professional certification program. *Other Students* includes respondents who are currently enrolled in an undergraduate university program, a community college or technical institution, or 'other' program.

[2] Respondents answered on a five-point scale with '1' representing "*very dissatisfied*" and '5' representing "*very satisfied*." Scores of '4' and '5' are combined and presented in this figure.

[3] Respondents answered on a five-point scale with '1' representing "*not at all*" and '5' representing "*to a great extent*." Scores of '4' and '5' are combined and presented in this figure.

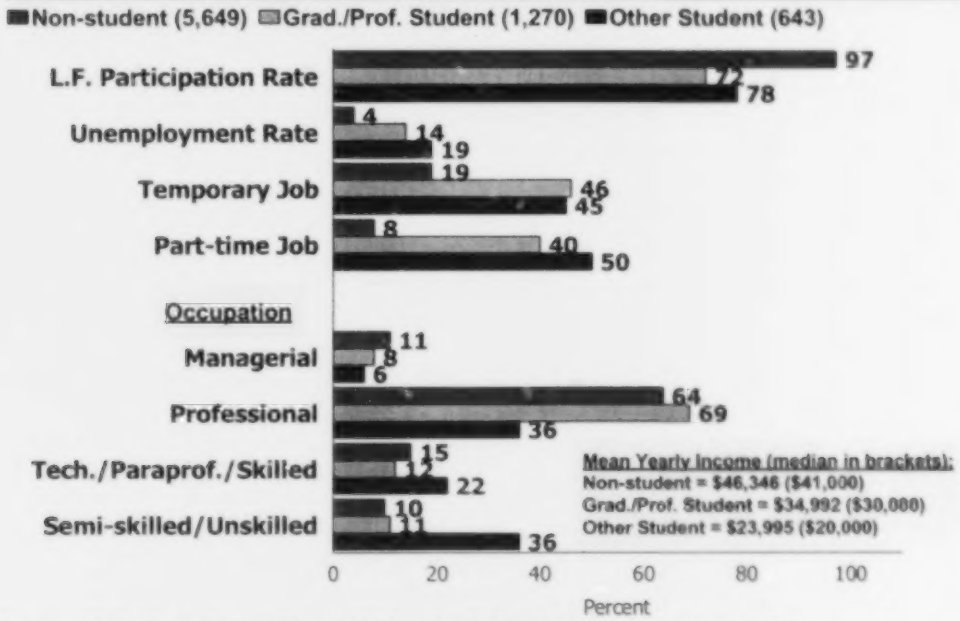
Second, the *'other student'* population reported the lowest levels of satisfaction for all seven measures, with the lowest levels reported for improved chances of a good income. These lower satisfaction levels might explain why this group of students continued their education. Hence, it appears that different reasons motivate further education for different groups. Since we are indirectly extrapolating the reasons for continuing education and since we have no way of confirming these interpretations of the findings with the existing data, however, these statements should be viewed as tentative. A more thorough investigation of this issue would require that the analysis controls for the fields of study from which the sample graduated from in *2000*. Unfortunately, small sub-sample cells do not permit such an analysis.

It is also of some significance that acquiring the skills needed for a particular job was viewed as less important among both types of continuing students than current non-students (results not shown in figure or table). While 83% of current non-students reported that it was important for them to acquire the skills needed for a particular job when they decided to enroll in their program, only 74% of current graduate/professional students and 72% of other students responded similarly.

G.3 Labour Market Activity Among Current Students

When examining the different labour market outcomes between current non-students and both types of current students a distinct pattern emerges that supports the logic for excluding current students from the prior labour market outcomes analysis (*Sections E & F*). Compared to current non-students, both types of current students have substantially lower labour force participation rates and much higher rates of unemployment and temporary and part-time employment (Figure 33).

Figure 33: Labour Market Outcomes [1] by Current Student Status / Program Type [2]



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Definitions of Labour Market Outcomes:

Labour Force Participation Rate: The ratio of respondents who are currently employed or who are out work (but looking for a job) to the total sample.

Unemployment Rate: The ratio of respondents who are currently unemployed to those who are in the labour force

Part-time Job: Includes respondents who work less than 30 hours per week in their main job.

Occupation: Occupational Categories are based on 4-digit National Occupation Classification (NOC) codes which have been collapsed into four broad groups.

Mean Yearly Income: Gross (before deductions) yearly income from all jobs combined, including part-time and full-time.

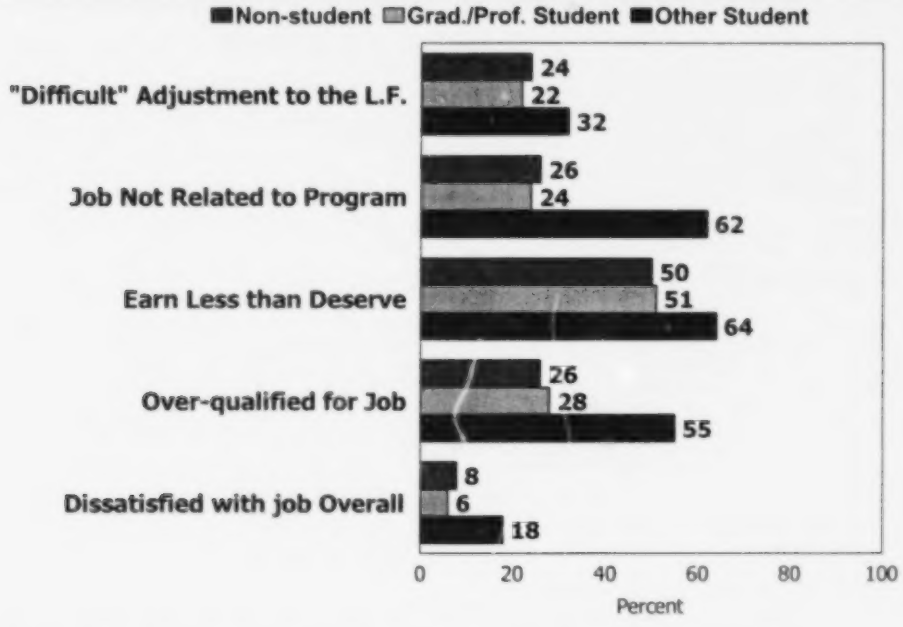
[2] *Graduate/Professional Students* includes respondents who are currently enrolled in a university graduate program, a university professional school program, or a professional certification program. *Other Students* includes respondents who are currently enrolled in an undergraduate university program, a community college or technical institution, or 'other' program.

The differences between non-students and current graduate / professional students, however, begin to disappear when examining occupation and income. While slightly fewer current graduate/professional students were in managerial professions than non-students (8% compared to 11%), a slightly larger proportion were working as professionals (69% compared to 64%). Current students in undergraduate, college or technical institute programs (i.e. 'other students'), on the other hand, were just as likely to be working in semi-skilled or unskilled jobs as they were to be in professional occupations (36%). Income differences, to some extent, reflect variations in occupational distribution. But, while current graduate / professional students are clearly not yet in the labour market that their education is preparing them for, they are more similar to current non-students than we might have originally thought. By comparison, working current 'other students' are clearly engaged in the student labour market which is typified by higher unemployment rates, higher non-standard jobs and lower-level occupations and incomes.

Given the differences in labour market outcomes between current students and non-students, we would anticipate differences in their respective evaluations of their labour market experience. As shown in Figure 34, this is indeed the case. Current graduate / professional students are as equally unlikely as non-students to indicate low evaluations of their labour market experiences while current 'other students' tend to evaluate these experiences much more negatively. Of particular note is the very low proportion of graduate / professional students indicating that their current job is not related to their program of study (24%). These findings suggest that many of these current students have been able to obtain jobs within their field of study while at the same time pursuing higher levels of education. Clearly we cannot paint all continuing students with the same labour-market disillusionment brush.[36]

[36] We might also presume that the labour market outcomes and evaluations differ depending on whether current students are enrolled on a full-time or part-time basis. Indeed, this does appear to be the case (see *Appendix 3*, Table 8)

Figure 34: Evaluations of Labour Market Experience [1] by Current Student Status / Program Type [2]



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Definitions of Labour Market Evaluations:

Difficult adjustment to labour market: Combined "very difficult" and "somewhat difficult" responses to the question: Since graduating in 1999/2000, how would you rate your adjustment from university/university college to the work force on a four-point scale? Respondents volunteering that they were "still adjusting" (74) or that "no adjustment was required" (343) are excluded from the analysis in this figure.

Job Not Related to Program: Combined "not at all related" and "not very related" responses to the question asking about the "overall" fit between current (main) job and program of study on a four-point scale.

Dissatisfied with Job Overall: Combined scores of '1' representing "very dissatisfied" and '2' representing "dissatisfied" on a 5-point satisfaction scale.

[2] *Graduate/Professional Students* includes respondents who are currently enrolled in a university graduate program, a university professional school program, or a professional certification program. *Other Students* includes respondents who are currently enrolled in an undergraduate university program, a community college or technical institution, or 'other' program. Sub-sample sizes for "difficult" adjustment to the labour market are 5,649 for current non-students, 1270 for current graduate/professional students, and 643 for other students. For all other questions, sub-sample sizes reduce to 5,256 for current non-students, 780 for current graduate/professional students, and 404 for other students.

H. EDUCATION AND WORK PATTERNS BY RURAL/URBAN ORIGINS OF GRADUATES

The examination of the labour market outcomes and educational experiences of the *class of 2000* concludes, in this section, with an analysis of the results between graduates originating from rural versus urban locations. The simple question driving these analyses is whether or not rural-origin graduates are distinct in any way from those who lived in urban areas before participating in the post-secondary system. *Section H.1* provides some descriptive information based on the rural/urban origins of graduates. *Section H.2* looks at the migration patterns of graduates (e.g. from rural origins to current urban locations). *Sections H.3* through *H.6* examine the educational experiences and labour market outcomes on the basis of rural/urban origins.

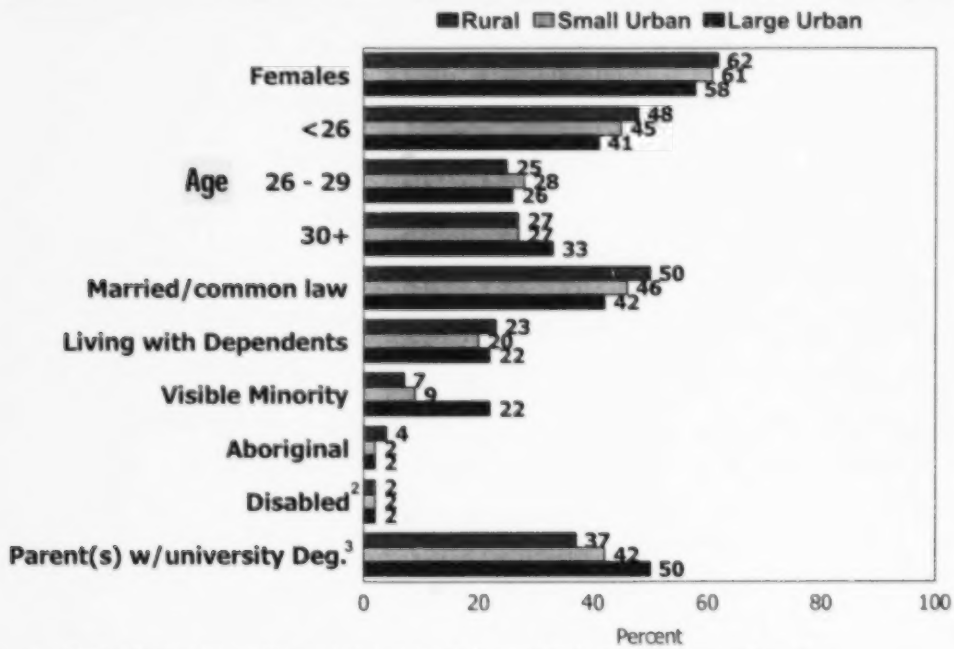
As mentioned in *Section B.1 Questionnaire Design*, the sample of *2000 graduates* were asked a new question stating "To the best of your knowledge, what was the population of the village, town or city you lived in when your FIRST applied for post-secondary studies." Sample members were provided with a series of response categories, each representing a population range from which they could choose. Based on the results from this question and using Statistics Canada's definition of rural/urban as a guideline, three rural/urban origin categories were constructed. *Rural* origins represents graduates originating from a population size of less than 10,000, *small urban* includes individuals from a population size between 10,000 and 74,999, and *large urban* captures those from urban areas with a population of at least 75,000. In the sample of *2000 graduates*, one in five originated from a rural area, 22% were from small urban regions, and 58% were from large urban centres. Hence, over 40% of the sample members did not come from a large urban centre.[37]

[37] Since we have no indication of the province from which graduates originated, we must presume that some of them originated from outside the province. Accordingly, the results presented in this section of the report do not strictly apply to graduates originating within the province of Alberta, although a safe assumption is that most do.

H.1 Characteristics of Graduates from Rural Origins

Figure 35 presents the socio-demographic characteristics of the 2002 sample by their rural/urban origins. This figure indicates that there are some very distinct differences between graduates who originated from rural areas and individuals from small urban or large urban centres. While only a slightly greater proportion of rural-origin graduates were female (62% for rural, 61% for small urban, and 58% for large urban), they were somewhat more likely to be younger. Nearly half (48%) of rural-origin graduates were less than 26 years of age, but only 41% of large urban respondents were in this age category. Yet despite their 'youthful' age, half of the rural graduates were married and 23% were living with at least one dependent when interviewed in the spring of 2002.

Figure 35: Socio-demographic Characteristics by Rural/Urban Origins [1]



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] *Rural* includes locations with a population of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999 and *Urban* includes locations with a population of 75,000 or more.

[2] 'Yes' responses to the question "Do you consider yourself to have a disability that may disadvantage you in the labour market?"

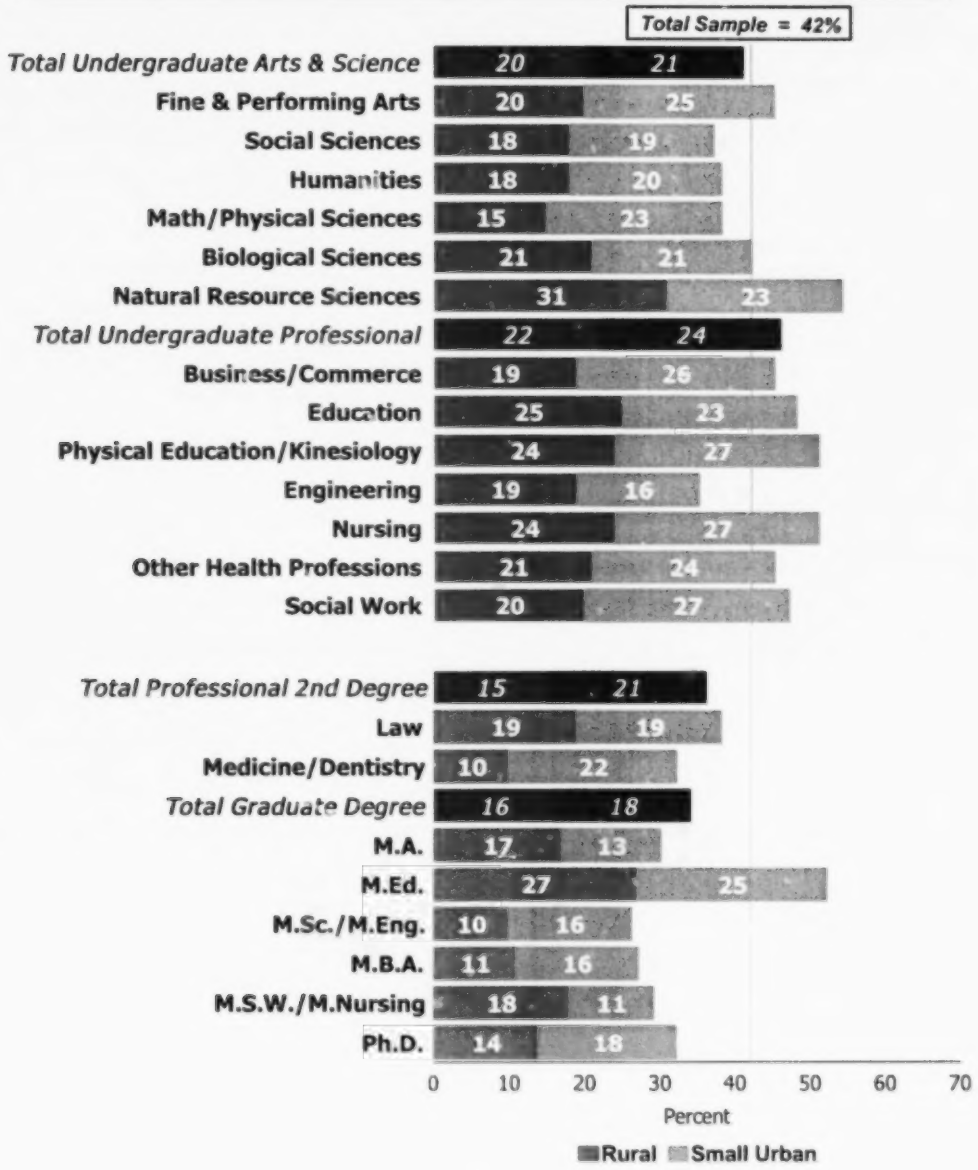
[3] *Parent with university degree* is the level of educational attainment reached by either of respondent's parents (guardians).

Although rural-origin graduates were only marginally more likely to be of aboriginal origin (4%), and equally likely to be disabled (2%), they were much less likely than large urban graduates to be a visible minority (7% compared to 22%). The later finding likely reflects immigration patterns whereby new entrants to the country tend to locate themselves in large urban centres.

Of particularly significance is the observation in Figure 35 that rural-origin graduates were somewhat less likely than small urban graduates and much less likely than large urban graduates to have at least one parent with a university degree. Compared to rural-origin graduates, of which only 37% came from such high education backgrounds, half of large urban origin respondents and 42% of small urban graduates had a parent with a university degree.

Turning to an examination of rural/urban origins by field of study, Figure 36 demonstrates little variation. For most fields of study, between 30% and 45% were from rural or small urban regions. If we contain our focus to rural graduates only, however, a few fields of study stand out in terms of their greater or lesser representation. Specifically, natural resource science (31%) and M.Ed. (27%) graduates were more likely to be from rural origins than on average (20%), but somewhat fewer medicine/dentistry (10%), M.Sc./M.Eng. (10%), and M.B.A. (11%) graduates resided in a rural area before they began their post-secondary education.

Figure 36: Percent from Rural and Small Urban Origins[1] by Field of Study



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] *Rural* includes locations with a population of less than 10,000 and *Small Urban* includes locations with a population between 10,000 and 74,999.

H.2 Patterns of Rural/Urban Migration

After the data were collected and compiled, a variable measuring the location of graduates at the time of being interviewed was constructed. The *current rural/urban* locations of graduates was derived from existing information in the data base on area code and exchange. With two points in time -- one measuring graduates' location before entering the post-secondary system and the other their location two years after completing a degree in *2000* -- we can track the migration patterns of graduates in the sample. The main question driving this analysis is whether or not rural-origin graduates relocate to, or remain in, urban centres, once they have completed their education. Furthermore, by examining the migration patterns of current students versus current non-students we have some indication of the respective 'pulls' of the labour market or the education system.[38]

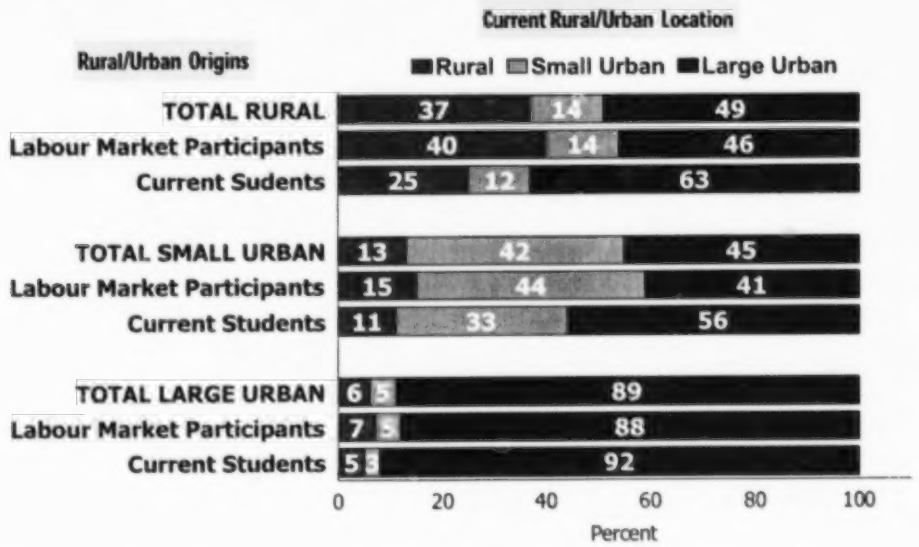
Beginning with the "Total Rural" results presented in Figure 37, 37% of rural-origin graduates remained or returned to their rural origins after graduating in *2000*, 14% had relocated to small urban centres, and about half (49%) were residing in a large urban centre (Edmonton or Calgary). These findings both confirm and refute the commonly-expressed concern among the rural community over the loss of their young people to urban centres largely because of a lack of employment and educational opportunities in rural regions.[39] With nearly two-thirds (63%) of young well-educated individuals leaving or not returning to their rural origins, these concerns are clearly warranted. Perhaps most important to rural residents is the missed opportunity for community development that might be made by this relatively highly educated group. Still, Figure 37 demonstrates that not all rural-origin graduates were drawn to the city.

We also observe somewhat different migration patterns between rural-origin graduates who are labour market participants (only) and those who are current students. When interviewed, current students were considerably more likely to be residing in a large urban centre than current labour market participants. These findings suggest that the absence of educational opportunities in rural

[38] In contrast to the rural/urban origin variable, which includes graduates who lived outside the province, current rural/urban location is limited to Alberta residents only. Hence, the examination of migration patterns is limited to graduates who currently reside in the province. Only 252 graduates were living outside Alberta at the time of being interviewed.

regions serves as a stronger reason for leaving rural regions than does a lack of rural employment opportunities.

Figure 37: Rural/Urban Origins by Current Rural/Urban Location [1] for Total Sample, Current Labour Market Participants, and Current Students



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] *Rural* includes locations with a population of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999 and *Large Urban* includes locations with a population of 75,000 or more. *Current Rural/Urban Location* is derived from graduates' area code and exchange for cases with such available data.

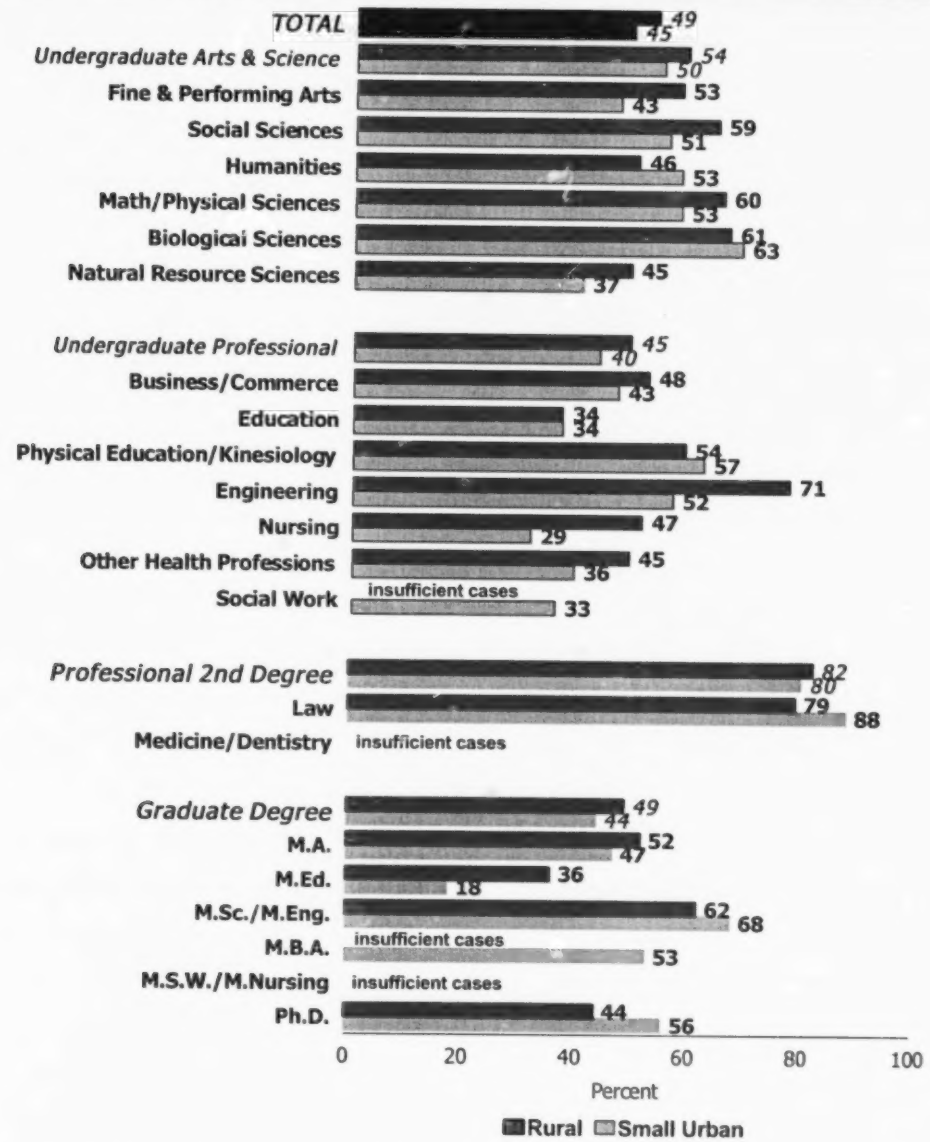
Figure 37 also displays the migration patterns among graduates originating from small urban centres with a population size of between 10,000 to 74,999. These graduates were equally likely to be in small urban or large urban centres (42% and 45%, respectively). Small urban origin graduates, and to some extent large urban origin graduates, exhibit the same pattern of differences in migration trends between labour market participants and current students as discussed above. Whereas only 41% of small urban origin, working graduates, for example,

[39] Sorensen, Marianne (2002) "Rural Priorities: A Survey of Rural Albertans" Alberta Rural Team, Rural Secretariat, Government of Canada.

were living in large urban centres, 56% of current students relocated to (or remained in) similarly populated areas of the province. These findings suggest that movement from rural to urban parts of the province are a function of the location of most of Alberta's post-secondary institutions. Still, since a large minority of rural-origin graduates were currently residing in urban centres, migration based on labour market opportunities is also evident.

We also observe considerable field of study variation in the extent to which rural and small urban origin graduates have migrated to large urban centres (Figure 38), which, in part, illustrate varying levels of demand for different occupations. Rural origin individuals who graduated in the professional programs of engineering, law and medicine/dentistry were the most likely to be living in large urban centres. For example, 79% of rural origin and 88% of small urban origin law graduates were currently residing in one of the province's large urban centres (i.e. Edmonton or Calgary). By contrast, education, nursing, social work, and M.Ed. graduates were much less likely to be in large urban centres. We might conclude that these different migration patterns by field of study mean that occupations in education, nursing, and social work are more readily available in rural areas of the province and that engineering, law and medicine/dentistry occupations are in higher demand (or are, perhaps, higher paying) in the city than in rural regions.

Figure 38: Percent of Graduates from Rural and Small Urban Origins Currently Residing in Urban Locations[1] by Field of Study

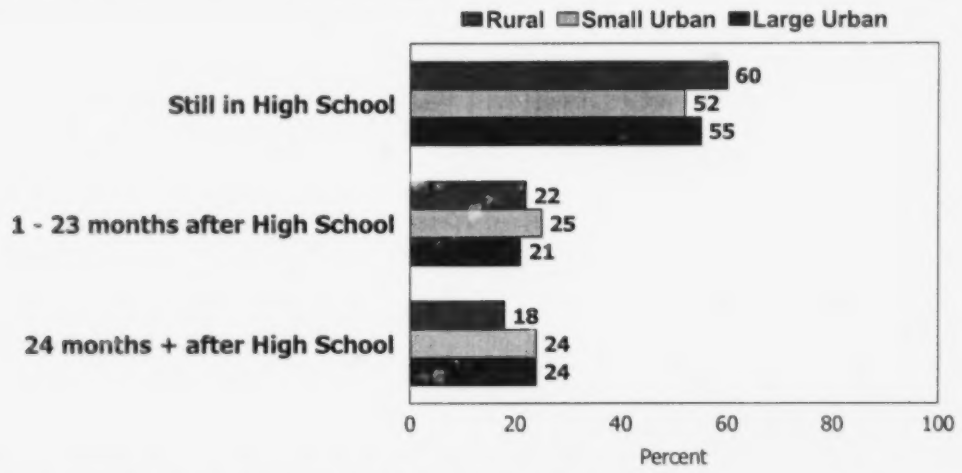


Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey.
[1] Rural includes locations with a population of less than 10,000, Small Urban includes locations with a population between 10,000 and 74,999 and Urban includes locations with a population of 75,000 or more.

H.3 Educational Experience

Do graduates from rural regions delay their entrance into post-secondary studies more so than individuals from urban areas? Results presented in Figure 39 suggest that rural origin respondents were slightly less likely to delay entrance into post-secondary studies than small urban and large urban students: 60% of rural-origin graduates first applied for post-secondary studies while in high school, compared to 52% of small urban and 55% of large urban-origin graduates. This finding, in part, reflects the younger age of rural students (Figure 35).

Figure 39: When First Applied for Post-secondary Studies [1] by Rural/Urban Origins [2]



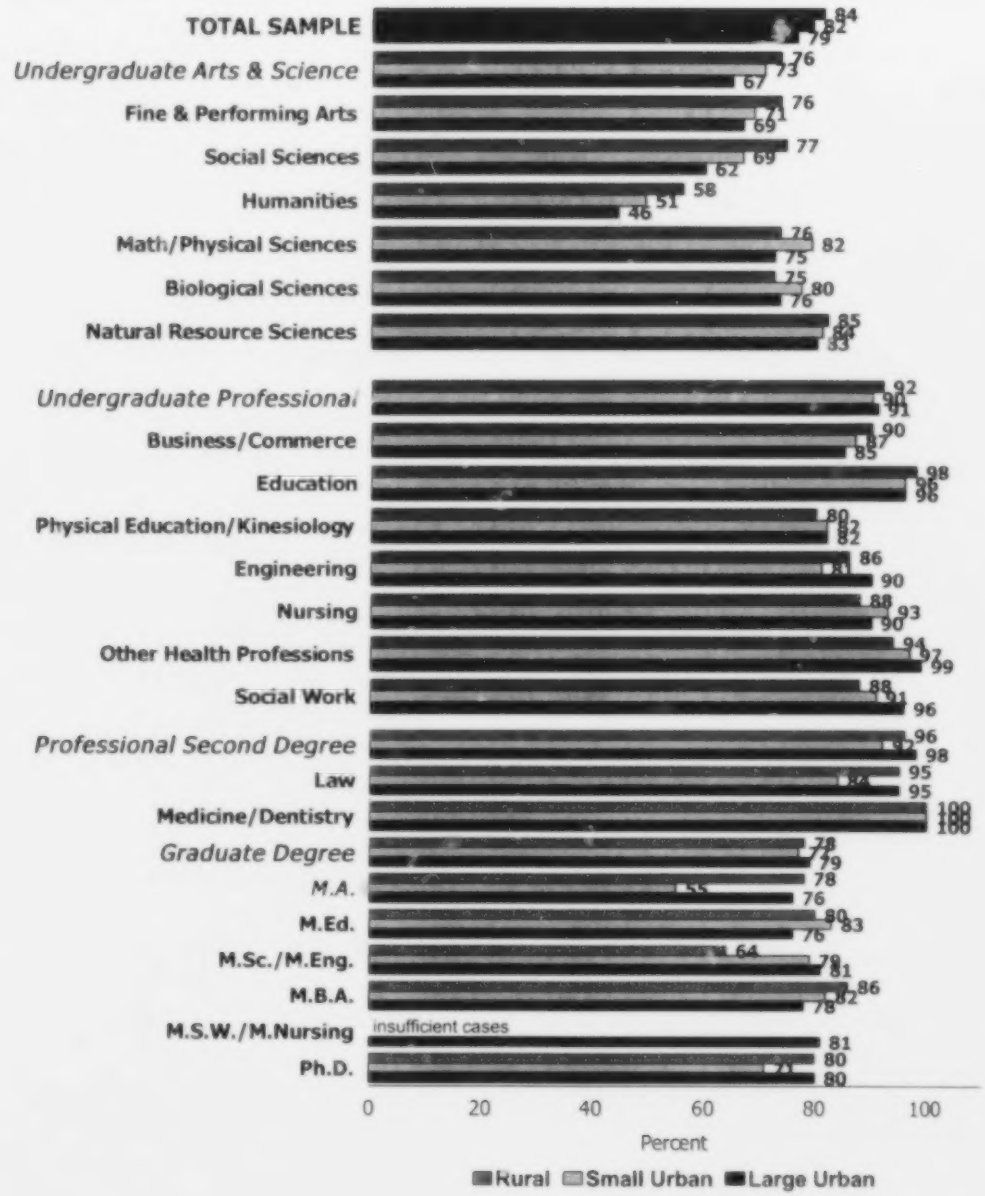
Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Based on responses to the question: "At the time when you FIRST applied for post-secondary studies, how many months had it been since you completed or left high school?"
[2] *Rural* includes locations with a population size of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999, and *Large Urban* includes locations with a population of 75,000 or more.

Are rural graduates from rural areas more likely to enroll in co-op education? To a small extent, the answer is 'yes.' Thirty-six percent of rural-origin graduates participated in co-op education, practicum, or other type of work/field experience in their program from which they graduated in *2000*, compared to 35% of small urban and 30% of large urban graduates (results not shown in table or figure, but see Table 2 in *Appendix 3* for results from this question for the total sample by field of study). Further analysis revealed, however, that this small difference can

be explained by the higher representation of rural graduates in fields of study that typically offer such co-op programs. Rural graduates had about the same likelihood as the other two groups to be enrolled in co-op programs within each field of study.

Do rural students enroll in programs for different reasons? Responses to the question about the importance of acquiring the skills needed for a particular job when making the decision about enrolling in their program vary, to some extent, by rural/urban origins (Figure 40). Looking first at the total sample results presented in Figure 40, 84% of rural-origin graduates agreed that job-related skill acquisition was important compared to 82% of small urban and 79% of large urban graduates. These differences, however, do not hold for many fields of study. When examining the results among *undergraduate professional*, *professional 2nd degree*, and *graduate degree* students, we observe a somewhat erratic and therefore less interpretable pattern. But, rural/urban differences in responses to this question are apparent within *undergraduate arts and science* programs. For example, 77% of social science rural-origin graduates reported that job skill acquisition was important in their decision to enroll in their program of study compared to only 62% of large urban graduates. Perhaps rural-origin graduates in these programs are slightly more likely to attend university/university college as a means for accessing the labour market than those originating from urban centres. Part of the explanation may lie in rural youth having to invest a greater amount of resources (both human and monetary) in attending university. These costs are possibly viewed as less imposing if the outcome is perceived to be a 'good' job.

Figure 40: Percent of Graduates Reporting Job Skill Acquisition Important[1] by Field of Study and by Rural/Urban Origins[2]



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Based on responses to the question: "When you decided to enroll in [your] program, how important was it for you to acquire the skills needed for a particular job?" Responses are based on a 4-point scale with '1' representing "not important at all" and '4' representing "very important." Scores of '3' and '4' are combined and presented in this figure.

[2] *Rural* includes locations with a population size of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999 and *Large Urban* includes locations with a population of 75,000 or more.

H.4 Satisfaction with Educational Experience

When comparing the results for the seven program-satisfaction questions between rural and urban graduates, we find very few consistent differences, after controlling for field of study and type of institution. However, rural graduates were slightly more likely to report that their program improved their chances for a good income, independent of field of study and type of institution. These findings are displayed in Figure 41.

Compared to two-thirds of rural graduates who indicated that their program of study improved their chances for a good income, 63% of small urban and 60% of large urban graduates responded in a similar manner. The results by field of study illustrate an inconsistent pattern, but again, rural/urban differences are most pronounced among *arts and science undergraduate* students. Perhaps the most extreme example is found in the natural resources where 77% of rural graduates reported that their program provided them with improved chances of a good income compared to 57% of large urban graduates (and 53% of small urban graduates). Other fields of study exemplifying this difference can also be found among education, physical education, and nursing graduates.

Figure 41: Percent Reporting that Program of Study Improved their Chances for a Good Income[1] by Field of Study and by Rural/Urban Origins[2]

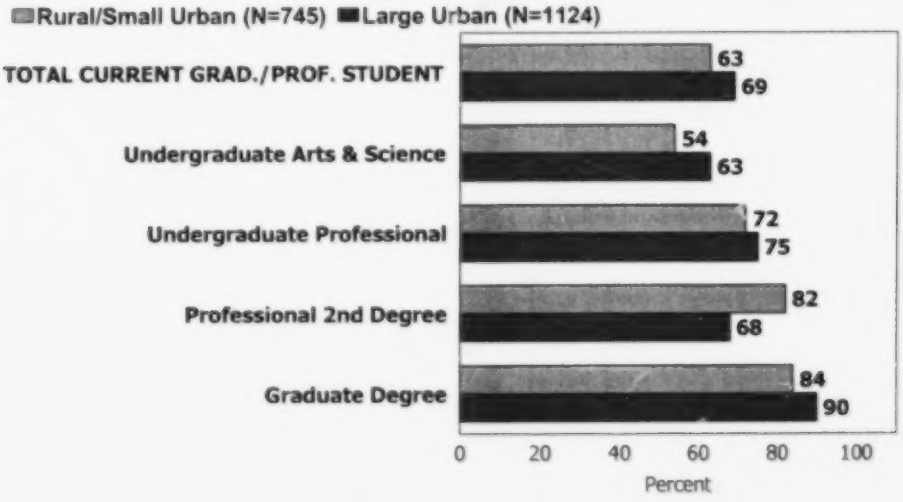
Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey[1] Respondents were asked to report on the extent to which their program of study provided them with "improved chances of a good income" on a five-point scale with '1' representing "to no extent" and '5' representing "to a great extent." Scores of '4' and '5' are combined and presented in this figure.

[2] *Rural* includes locations with a population of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999 and *Large Urban* includes locations with a population of 75,000 or more.

H.5 Post-Graduation Educational Activity

While virtually no rural/urban differences were found in terms of current student status (24% of rural and small urban and 26% of large urban were current students), rural graduates were more likely than urban graduates to continue on to university undergraduate programs (31% of rural graduates compared to 24% of large urban origin graduates) and less likely to continue their education in university graduate or university-level professional programs. As shown in Figure 42, two-thirds of large urban graduates were currently enrolled in graduate or professional programs compared to 63% of rural or small urban graduates.[40] The figure also demonstrates the decreased likelihood of rural graduates participating in these more advanced programs for all but the *professional 2nd degree* category. Care must be taken when interpreting this finding, however, since only 17 cases are included in this category.[41]

Figure 42: Percent Current Graduate/Professional Student by 2000 Degree Type and by Rural/Urban Origins[1]: Current Students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employmen t Survey
[1] *Rural includes locations with a population size of less than 10,000*, Small Urban includes locations with a population between 10,000 and 74,999 and *Large Urban* includes locations with a population of 75,000 or more

[40] These two rural/urban categories were collapsed because of small sub-sample sizes.
[41] The rural/urban differences in participation rates in graduate / professional programs holds after controlling for age.

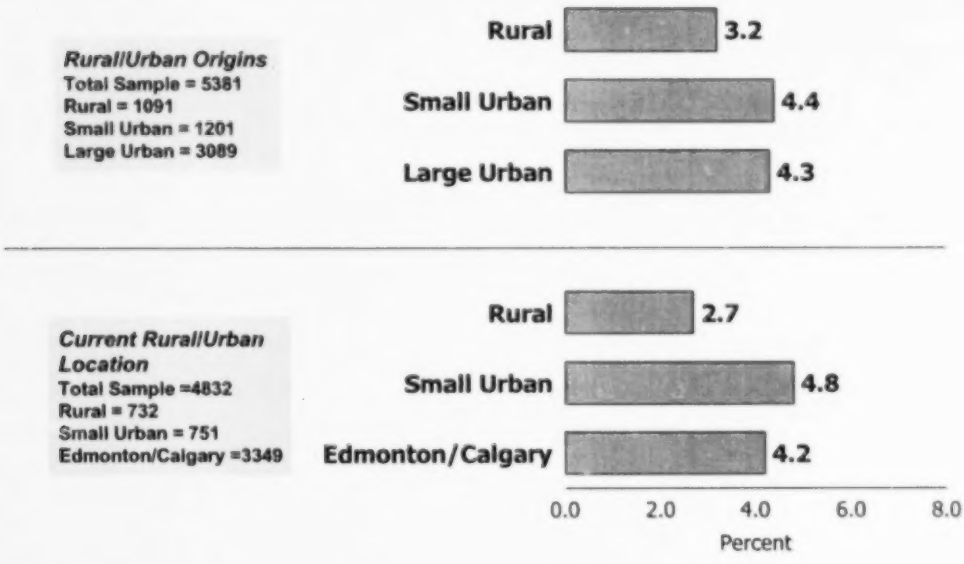
H.6 Employment Outcomes

We conclude this rural/urban analysis by comparing the employment outcomes between rural-origin and urban graduates. For most employment indicators very few rural/urban differences were found. Rural- and urban-origin graduates were very similar in terms of non-standard employment, industry and occupational distributions, job satisfaction, measures of under-employment, and in their experiences with moving from the educational system to the workforce. This section, therefore, highlights the results from a few areas showing differences between rural- and urban-origin graduates. [42]

No differences in the labour force participation rates between rural- and urban-origin graduates were found, but there are some variations in unemployment rates with rural graduates having a marginally lower unemployment rate of 3.2% (among current non-students only) (Figure 43). In fact, for rural-origin graduates unemployment rates are consistently lower regardless of field of study. But, we also find that graduates who were residing in rural areas two years after graduating from their program of study (current rural/urban location) had even lower rates of unemployment (2.7%). Hence, it appears that rural status, whether it is measured before or after graduating, leads to lower levels of unemployment.

[42] Table 8 in *Appendix 3* presents the labour market outcomes and evaluations by current student status / Type for both full-time and part-time students.

Figure 43: Unemployment Rates [1] by Rural/Urban Origins [2] and Current Rural/Urban Location [3]
Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] The *unemployment rate* is based on the ratio of respondents who are currently unemployed to those who are in the labour force.

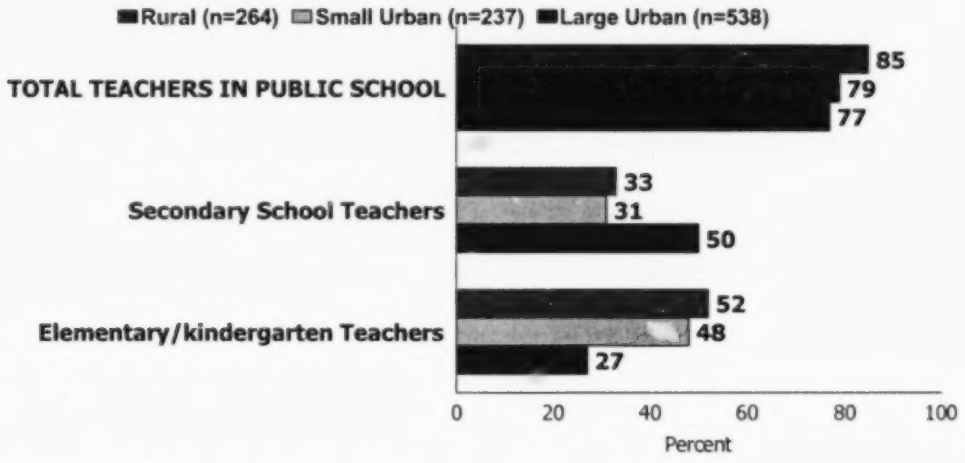
[2] *Rural* includes locations with a population of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999 and *Large Urban* includes locations with a population of 75,000 or more.

[3] *Current Rural/Urban Location* is derived from graduates' area code and exchange for cases with such available data.

No notable differences or discernable patterns were detected in the incidence of non-standard employment between rural- and urban-origin graduates. Also, few notable industry or occupational differences were found that could not be explained by field of study. One rather interesting exception was the greater representation of rural-origin graduates in education service industries and in professional occupations in the social sciences, education or government. Just over one-third of rural (34%), 28% of small urban and 25% of large urban graduates were working in educational services. In terms of occupational distribution, 38% of rural-origin graduates worked as professionals in social science/education/government areas compared to 34% and 30% of small urban and large urban, respectively.

We have already noted from Figure 36 that rural-origin graduates were slightly more likely to be in undergraduate education programs, but as Figure 44 demonstrates, among undergraduate education graduates they are also more likely to secure jobs in teaching. Of the 264 rural-origin graduates receiving an education degree in *2000*, 85% were working as public school teachers, compared to 77% of large urban education graduates. Rural/urban differences are also observed for the type of teaching positions: rural-origin graduates were much more likely to be elementary/kindergarten teachers. Further analysis (not shown) revealed that among rural-origin education graduates, about half returned to, or remained in, rural sites as teachers.

Figure 44: Teaching Occupations [1] Among Undergraduate Education Graduates by Rural/Urban Origins [2]
Current Non-students Only



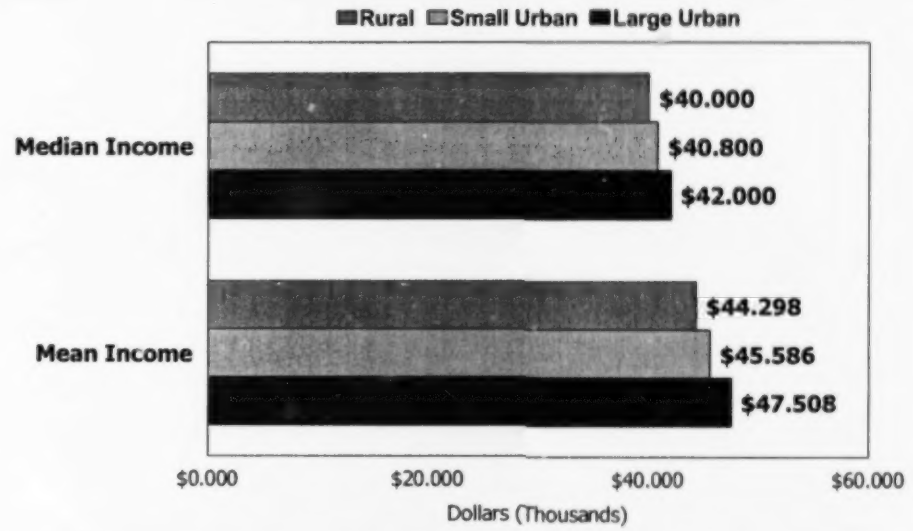
Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Based on 4-digit National Occupation Classification (NOC) codes.

[2] *Rural* includes locations with a population of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999, and *Large Urban* includes locations with a population of 75,000 or more.

The last area of our examination of rural/urban differences in employment outcomes highlights the small but notable yearly income differences between the three groups (Figure 45). The median yearly income from all jobs (if more than one job) for rural-origin graduates was $40,000 -- $2000 less than large urban origin graduates. These differences are even more pronounced when examining mean yearly income, presumably because of a higher incidence of high incomes among large urban graduates. This finding is interesting given that rural graduates were somewhat more likely to report that their program improved their chances for a good income (Figure 41).

Figure 45: Total Mean and Median Yearly Income from All Jobs [1] by Rural/Urban Origins [3] Current Non-students Only



Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey
[1] Gross (before deductions) yearly income from all jobs, including full-time and part-time.
[2] *Rural* includes locations with a population of less than 10,000, *Small Urban* includes locations with a population between 10,000 and 74,999 and *Large Urban* includes locations with a population of 75,000 or more.

APPENDICES

APPENDIX 1: SURVEY INSTRUMENT

2002 Alberta University and University College Graduate Employment Survey

INTRO
Hello, may I please speak to _____ (name of student)?

(If the individual is not available, try to find out when they might be available. Explain purpose of study (see below) if requested. Thank the person providing the information. Do not collect survey information from parents, roommates or others.)

(If the individual does not live in this household, try to obtain a new telephone number. Explain purpose of study (see below) if requested. Thank the person providing the information.)

INTRO2
Hi, my name is _____ and I'm calling (long distance) from the Population Research Lab at the University of Alberta.

I'm calling on behalf of _____ (name of institution). We are doing a study of the people who completed programs of study in the fall of 1999 or the spring of 2000 at _____ (name of institution). The purpose of the study is to provide summary information for Alberta Learning about graduates' employment and educational experiences, and to provide detailed information _____ (name of institution) with ideas about how to improve their programs.

I would like to interview you and I'm hoping that now is a good time for you. This interview should only take about 10 to 12 minutes. Would you have time to speak with me now?

INTERVIEWER NOTE: If the individual is unwilling or unable to be interviewed at this time, try to arrange another more convenient time.

1.....Yes
Ctrl-End ..... No (Arrange call back or code appropriately. Back up to first screen.)

INTRO3
Before we start, I'd like to assure you that your participation in this interview is voluntary and that any information you give us will be kept completely confidential. Your responses will only be shared with the institution you graduated from and will not be used on an individual basis. When results are published, only summary or aggregated information will be provided, and no individuals will be identified. Your personal information is protected by the Freedom of Information and Protection of Privacy Act.

(If the student questions the validity of the study, or has any questions about the Freedom of Information and Protection of Privacy Act, please tell them they can contact the person listed below for verification.)

1.....Yes to continue
Ctrl-End ..... No (Arrange call back or code appropriately. Back up to first screen.)

START TIMING NOW

Institution	Survey Contact	Telephone Number
University of Alberta	Ms. Carole Byrne Acting Registrar	(780) 492-3723
University of Calgary	Dr. Peggy Patterson Associate Vice-President (Student Affairs)	(403) 220-6580
University of Lethbridge	Dr. Dennis Domoney Director, Institutional Analysis	(403) 329-2062
Athabasca University	Dr. Nancy Parker Director, Institutional Studies	(780) 675-6392
Augustana University College	Dr. David Dahle Vice-President Academic	(780) 679-1102
Canadian University College	Dr. Andrea Luxton Vice-President for Academic Administration	(403) 782-3381
Concordia University College of Alberta	Dr. Richard Willie Vice-President. Academic	(780) 479-9215
King's University College	Dr. Keith Ward Vice-President, Academic	(780) 465-8304

A1

First, we would like to confirm some information.

A1. Did you receive in the Fall 1999 or Spring 2000 convocation, a _____ (degree/diploma/certificate) with a major in (name of major if provided by the institution) _____ at (name of institution) _____?

1. Yes **(go to A2a)**
2. No, information wrong **(go to A1oi to correct information)**
3. No, never graduated **(Thank respondent and terminate the interview)**

A1oi

A1oi Could you please provide the correct information for me?

1. New Degree Only - SPECIFY
2. New Major Only - SPECIFY
3. Both Degree and Major - SPECIFY

Now we would like to ask you some questions about your educational experience at (name of institution).

A2a

A2a. Were you enrolled in a co-op education, practicum, or other type of work or field experience program that involved alternating periods of work (paid or unpaid) on a job-site with periods of in-class study?

1. Yes **(Ask A2b)**
2. No **(Go to B1)**
9. Don't Know/No Response **(Go to B1)**

A2b

A2b Were you involved full-time or part-time in this work experience: **(READ)**

1. Full-time
2. Part-Time
9. Don't Know/No Response **(Go to B1)**

SATIS

The following questions examine how satisfied you are with your university or university college and your program of study now that you have been out of your program since 1999/2000.

B1. Using a 5-point scale, where 1 means "very dissatisfied", and 2 is "dissatisfied", 3 is "neither satisfied nor dissatisfied", 4 is "satisfied" and 5 means "very satisfied".

B1a

(RANDOMIZE AND READ B1a-B1c)

a) How satisfied are you with the relevance of your courses?
Would you say...**(READ)**

1 Very dissatisfied
2 Dissatisfied
3 Neither satisfied nor dissatisfied
4 Satisfied
5 Very satisfied

9 Don't Know/No Response

B1b

b) How satisfied are you with the quality of teaching in your program?
Would you say...**(READ)**

1 Very dissatisfied
2 Dissatisfied
3 Neither satisfied nor dissatisfied
4 Satisfied
5 Very satisfied

9 Don't Know/No Response

B1c

c) How satisfied are you with the overall quality of your educational experience?
Would you say...**(READ)**

1 Very dissatisfied
2 Dissatisfied
3 Neither satisfied nor dissatisfied
4 Satisfied
5 Very satisfied

9 Don't Know/No Response

B2

B2. Using the following scale, where 1 means "to no extent" and 5 means "to a great extent", to what extent did your program of study provide you with the following benefits?

B2a

(RANDOMIZE AND READ B2a-B2c)

B2a) An opportunity to improve yourself generally **(READ)**

1 To no extent
2 To a small extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/ No response

B2b

B2b) Improved chances of a good income **(READ)**

1 To no extent
2 To a small extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/ No response

B2c

c) A desire to continue learning more, about this or other subjects **(READ)**

1 To no extent
2 To a small extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/ No response

B3

B3. When you decided to enroll in the _____ program, how important was it for you to acquire the skills needed for a particular job? Would you say: **(READ)**

1. Not important at all
2. Not important
3. Important
4. Very important

9. Don't Know/No Response

B4a

B4a. Since graduation in 1999/2000 have you been enrolled in any post-secondary program for credit (i.e., leading toward a degree, diploma or certificate), excluding community education programs and general interest courses?

1. Yes **(Ask B4b)**
2. No **(Go to B8)**
9. Don't Know/No Response **(Go to B8)**

B4b

B4b. Are you a student now?

1. Yes **(Ask B5)**
2. No **(Go to B8)**
9. Don't Know/No Response **(Go to B8)**

B5

B5. What is the mode of delivery/format of the programs of study in which you are enrolled since graduation? **(READ)**

1. In class/on site
2. Distance format
3. Other (please specify) _____

9. Don't Know/No Response

B6a

B6a. In what type of post-secondary program *are* you enrolled? **(READ)**

1. Technical Institute/Community College
2. University/University College - Undergraduate (e.g. B.A., B.Ed., B.Sc.)
3. University - Graduate (e.g. Master's, Doctorate)
4. University - Professional School (e.g. Law, Dentistry, Medicine)
5. Professional Certification (e.g. C.A., P.Eng., Nursing, Faculty of Extension, Education)
6. Other (please specify) _____
9. Don't Know/No Response

B6b

B6b. What specific program are you enrolled in?

_____

B7

B7. Are you enrolled in this educational program primarily as a full-time or part-time student? **(READ)**

1. Full-time
2. Part-time
9. Don't Know/No response

B8

B8. Since graduation, did you take any full-time or part-time courses to improve your employability?

1. Yes
2. No
9. Don't Know/No Response

C1a

C1a. Since your graduation in 1999/2000, did you ever have a paying job, including self-employment?

1. Yes **(Go to C2)**
2. No **(Ask C1b)**
9. Don't Know/No Response **(Go to Section D)**

C1b

C1b. What is the main reason why you have not had a paying job since you graduated in 1999/2000? **(DO NOT READ CATEGORIES)**

1. Could not find a job
2. Own illness or disability
3. Family responsibilities
4. Going to school
5. Travelling
6. Taking time off
7. Could not find the kind of job I wanted
8. Not interested in finding a job
9. Need/want more education
10. Need/want more training
11. Other (please specify) _____
12. Don't Know/No Response

(GO TO C20a)

C2

(DO NOT ASK ATHABASCA GRADUATES C2)

C2. Since graduating in 1999/2000, how would you rate your adjustment from university/university college to the work force? Would you say it has been:

1. Very difficult
2. Somewhat difficult
3. Somewhat easy
4. Very easy
5. Still adjusting **(Volunteered)**
6. No adjustment required; always worked at a job **(Volunteered)**
9. Don't Know/No Response

C3

NEXT, WE WOULD LIKE TO ASK YOU ABOUT YOUR CURRENT ACTIVITIES.

C3. Do you currently have a paying job, including self-employment?
(PROBE TO FIND OUT IF MORE THAN ONE JOB)

1. Yes, one job **(Go to C4a)**
2. Yes, more than one job **(Go to C4a)**
3. No **(Go to C20a)**
9. Don't Know/No Response **(Go to C20a)**

C4a

C4a. What is the total number of hours you usually work per week in your (*main*) job? (*The main job refers to the one with the most hours worked in a week.*)
_____ (total work hours per week)

(IF LESS THAN 30 HOURS PER WEEK ASK C4b, OTHERWISE GO TO C5)

C4b

C4b. What is the main reason you usually work less than 30 hours per week (*in your main job*)? **(DO NOT READ CATEGORIES)**

1. Full-time work is under 30 hours a week
2. Did not want full-time work
3. Own illness or disability
4. Personal or family responsibilities
5. Going to school
6. Could only find part-time work
7. Other (please specify) _____
9. Don't Know/No response

(IF MORE THAN ONE JOB ASK C5, OTHERWISE GO TO C6a)

C5

C5 What is the total number of hours you usually work per week in all jobs combined?
_____ (total work hours per week)

C6a

C6a. Are you self-employed (*in your main job*)?

1. Yes **(Ask C6b)**
2. No **(Go to C7)**
9. Don't Know/No Response

C6b

C6b. Approximately how many people other than yourself do you employ (in your main job)?
_____ (number of employees)

999....Don't Know/No Response

C7

C7. Is your (main) job permanent or temporary?
(*Permanent means there is no indication when the job will end. Temporary means the job will terminate at some specified time.*)

1. Permanent
2. Temporary
9. Don't Know/No Response

C7a

C7a What kind of work do you do in your main job? That is, what is your job title? *(If you held more than one job, choose the one with the most hours.)*

_____

C7b

C7b. What does this job involve? **(prompt for major work duties)**

_____

_____

C7c

C7c. What kind of business, industry, or service is this?

_____

_____

MONTH

C8. In what month and year did you start this job?

Month 1 – 12 ..... _____ (enter 00 for No Response/Don't Know)

YEARX

Year ..... _____ (Enter 4 digits for the year)

999.....Don't Know/No Response

Does your (*main*) job provide any of the following benefits?

C9a

C9a. Extended health benefits (not covered by provincial health insurance)

1 Yes
2 No
9 Don't Know/No Response

C9b

C9b. Dental plan

1 Yes
2 No
9 Don't Know/No Response

C9c

C9c. Retirement plan/pension

1 Yes
2 No
9 Don't Know/No Response

C9d

C9d Maternity/Paternity benefits (not covered by Employment Insurance)

1 Yes
2 No
9 Don't Know/No Response

C10a

C10a. Working your usual hours at your current (*main*) job, approximately what is your gross salary or earnings, before taxes and deductions?

INTERVIEWER NOTE: ENTER WHOLE NUMBERS ONLY, DO NOT USE DECIMALS.

(ENTER AMOUNT)

$_____

-1..... Don't Know/No response

C10b

C10b. Is that figure yearly? (The gross salary from the previous question.)

1. Yes - Yearly
2. Hourly
3. Daily
4. Weekly
5. Every two weeks/twice a month
6. Monthly
7. Other (SPECIFY) _____
9. Don't Know/No Response

(IF RESPONDENT HAS MORE THAN ONE JOB, ASK C11a. OTHERWISE GO TO C12)

C11a

C11a. Approximately what is your gross salary or earnings in your other job(s), before taxes and deductions, working your usual hours?

(ENTER AMOUNT)

$_____

-1. Don't Know/No Response

C11b

C11b. Is that figure yearly? (The gross salary from the previous question.)

1. Yes - Yearly
2. Hourly
3. Daily
4. Weekly
5. Every two weeks/twice a month
6. Monthly
7. Other (SPECIFY) _____
9. Don't Know/No Response

C12

C12. Was a university degree required when you were selected for your (*main*) job?

1. Yes
2. No
9. Don't Know/No Response

C13a

C13a. How related is your current (main) job to the program from which you graduated in 1999/2000, in terms of the following scale where 1 is "Not at all related" and 4 is "very related."

a) The subject-area knowledge you acquired (e.g. history, biology, law) **(READ)**

1 Not at all Related
2 Not very Related
3 Somewhat Related
4 Very Related

9 Don't Know/No Response

C13b

b) The general skills and abilities you acquired (e.g., communication skills, critical thinking, problem solving) **(READ)**

1 Not at all Related
2 Not very Related
3 Somewhat Related
4 Very Related

9 Don't Know/No Response

C13c

c) Overall, how related is your current (main) job to the program from which you graduated in 1999/2000? **(READ)**

1 Not at all Related
2 Not very Related
3 Somewhat Related
4 Very Related

9 Don't Know/No Response

C14

C14. Given your education, training and experience, do you feel that you are earning: **(READ)**

1. More than you deserve
2. About the right amount
3. Less than you deserve
9 Don't Know/No Response

C15

C15. Given your education, training and experience, do you feel you are overqualified for your (*main*) job?

1. Yes
2. No
9. Don't Know/No Response

C16

C16. Given the benefits of post-secondary education, do you consider your program to be worth the financial cost to you and your family? Would you say…**(READ)**

1 Strongly disagree
2 Disagree
3 Neither agree nor disagree
4 Agree
5 Strongly agree

9 No response

C17a

C17. Now we would like you to assess to what extent you actually use the following skills, knowledge and abilities in your current (main) job. Using a scale of 1 to 5, where 1 is not at all and 5 is to a great extent, to what extent do you use each of the following?

a) Problem solving skills

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17b

b) Speaking skills

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17c

c) Writing skills

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17d

d) Ethical awareness

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17e

e) Creative thinking abilities

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17f

f) Computer skills

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17g

g) Information management skills

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17h

h) Ability to work independently

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C17i

i) Ability to work well with others

1 Not at all
2 To a small Extent
3 Neutral
4 To some extent
5 To a great extent

9 Don't Know/No Response

C18a

18. Using a scale of 1 to 5, where 1 is very dissatisfied and 5 is very satisfied, how satisfied are you with the following aspects of your current (main) job?

a) Pay, would you say…**(READ)**

1 Very Dissatisfied
2 Dissatisfied
3 Neither Dissatisfied Nor Satisfied
4 Satisfied
5 Very Satisfied

9 Don't Know/No Response

C18b

b) Benefits, (would you say…**(READ)**)

1 Very Dissatisfied
2 Dissatisfied
3 Neither Dissatisfied Nor Satisfied
4 Satisfied
5 Very Satisfied

9 Don't Know/No Response

C18c

c) Opportunities to make your own decision, (would you say…**(READ)**)

1 Very Dissatisfied
2 Dissatisfied
3 Neither Dissatisfied Nor Satisfied
4 Satisfied
5 Very Satisfied

9 Don't Know/No Response

C18d

d) Opportunities to develop your skills and abilities, (would you say…**(READ)**)

1 Very Dissatisfied
2 Dissatisfied
3 Neither Dissatisfied Nor Satisfied
4 Satisfied
5 Very Satisfied

9 Don't Know/No Response

C18e

e) Opportunities for career advancement, (would you say…**(READ)**)

1 Very Dissatisfied
2 Dissatisfied
3 Neither Dissatisfied Nor Satisfied
4 Satisfied
5 Very Satisfied

9 Don't Know/No Response

C18f

f) Opportunities to do interesting and challenging work, (would you say…**(READ)**)

1 Very Dissatisfied
2 Dissatisfied
3 Neither Dissatisfied Nor Satisfied
4 Satisfied
5 Very Satisfied

9 Don't Know/No Response

C19

C19. All things considered, how satisfied are you with your current (main) job? (would you say…**(READ)**)

1 Very Dissatisfied
2 Dissatisfied
3 Neither Dissatisfied Nor Satisfied
4 Satisfied
5 Very Satisfied

9 Don't Know/No Response

IF EMPLOYED GO TO SECTION D.

C20a

C20a. Are you currently looking for a job?

1. Yes **(Go to Section D)**
2. No **(Ask C20b)**

9. Don't Know/No Response **(Go to Section D)**

C20b

20b. What is the main reason you are not looking for a job? **(DO NOT READ)**

1. Own illness or disability
2. Personal or family responsibilities
3. Going to school
4. No longer interested in finding a job
5. Waiting for recall (to former job)
6. Waiting for replies from employer
7. Could not find the kind of job wanted
8. Discouraged with looking
9. Travelling/taking time off
10. No reason given
11. Other (please specify) _____
12. Don't Know/No Response

D1. Sex of respondent **(DO NOT ASK: entered from University database)**

1. Male
2. Female

D2. Age of respondent **(DO NOT ASK: entered from University database)**

_____ years

9. Don't Know

D3

These final questions will give us a better picture of the graduates who took part in this study.

D3. What is your current marital status? Are you **(READ)**...?

1. Single (never married)
2. Married or living with partner
3. Divorced/Separated/Widowed
9. No response

D4

D4. Do you currently have dependent children or dependent adults living with you? **(PROBE)**

1. Yes, dependent children
2. Yes, dependent adults
3. Yes, both
4. No
9. No response

D5

D5. Do you consider yourself to be a member of a visible minority group? (Members of visible minorities are persons who are non-Caucasian in race or non-white in colour. Examples of visible minority groups are: Black, Asian, Middle Eastern, etc.)

1. Yes
2. No
9. No response

D6

D6. Do you consider yourself to be an aboriginal person? *(e.g. Status Indian, Non-Status Indian, Inuit, or Metis)*

1. Yes
2. No
9. No response

D7

D7. Do you consider yourself to have a disability that may disadvantage you in employment?

1. Yes
2. No
9. No response

D8

D8. To the best of your knowledge, what was the population of the village, town or city you lived in when you **FIRST** applied for post-secondary studies? **(READ)**

1. Less than 500
2. 500 to 999
3. 1000 to 4,999
4. 5,000 to 9,999
5. 10,000 to 19,999
6. 20,000 to 29,999
7. 30,000 to 39,999
8. 40,000 to 49,999
9. 50,000 to just under 75,000
10. 75,000 or more
11. Don't Know/No Response

D9

D9. At the time when you **FIRST** applied for post-secondary studies, how many months had it been since you completed or left high school? **(READ)**

1. Applied before completing or leaving high school
2. 0 to 6 months after
3. 7 to 11 months after
4. 12 to 23 months after
5. 24 months or longer
9. Don't Know/No Response

D10

D10. What is/was the highest level of educational attainment reached by either of your parents or guardians? **(DO NOT READ CATEGORIES)**

1. Elementary or junior high school
2. Some high school
3. Completed high school
4. Some post-secondary
5. Completed college, technical institute or apprenticeship program
6. Completed university degree
7. Other (please specify) _____
9. Don't Know/No Response

E1

E.1 Is there anything about your education or work experience that you would like to add, for example, any information about your experience that has not been covered in this interview?

_____

ENDQQ

WE'VE REACHED THE END OF OUR QUESTIONS AND I WOULD LIKE TO THANK YOU VERY MUCH FOR YOUR TIME AND INTEREST TODAY.

TELALT

IF YOU INTERVIEWED RESPONDENT AT A TELEPHONE NUMBER OTHER THAN THE ONE AT THE TOP OF THE SCREEN (SO, THE SECOND NUMBER ON THE SCREEN OR ANOTHER NUMBER PROVIDED BY A RELATIVE, FRIEND) ENTER IT HERE. IF YOU INTERVIEWED THE PERSON AT THE NUMBER AT THE TOP OF THE SCREEN, ENTER 999-999-9999.

999-999-9999 ..... CONTACTED AT NUMBER AT TOP OF SCREEN

LENGTH
PLEASE RECORD THE LENGTH OF TIME OF THE INTERVIEW, IN MINUTES.

DECLAR
I DECLARE THAT THIS INTERVIEW WAS CONDUCTED IN ACCORDANCE WITH THE INTERVIEWING AND SAMPLING INSTRUCTIONS GIVEN BY THE POPULATION RESEARCH LAB. I AGREE THAT THE CONTENT OF ALL THE RESPONDENT'S COMMENTS WILL BE KEPT CONFIDENTIAL.

PLEASE ENTER YOUR INTERVIEWER NUMBER.

END
GO BACK THROUGH THE QUESTIONNAIRE FOR YOUR FINAL EDIT BEFORE RECORDING AS COMPLETE.

APPENDIX 2: FIELD OF STUDY CLASSIFICATION SCHEME

Appendix 2: Field of Study Classification Scheme
All Alberta Universities and University Colleges

Undergraduate Arts and Science:

Fine and Performing Arts:
Art, Design, Drama, Music, Print Making

Social Sciences:

1) Traditional Programs: Anthropology[1], Archaeology[1], Economics, Geography[1], Linguistics, Political Science, Psychology[1], Sociology
2) Specialization Programs: Agricultural Studies, Career Development, Communication Studies, Canadian Studies, Consumer Studies, Criminology, Development Studies, Education Studies, Environment Science, Family Studies, International Relations, Labour Studies, Latin American Studies, Law and Society, Leizure, Tourism and Society, Urban Studies, Women's Studies, Workplace Learning

Humanities:
Classics, English, Film Studies, History, Philosophy, Languages (e.g. French, German, Japanese, Russian, Spanish), Combined Languages and Literature, Comparative Literature, Native American Studies Religious Studies

Mathematics/Physical Sciences:
Actuarial Sciences, Anthropology[2], Applied Math, Applied Physics, Archaeology[2], Astro Physics, Atmospheric Science, Chemistry, Computing and Information Systems, Computing Science, Environmental Physical Science, Mathematics, Pharmacology, Physical Sciences, Physics, Psychology[2], Science and Technology, Statistics

Biological Sciences:
Biochemistry, Botany, Cellular Biotechnology, Environmental Biology, Genetics, Invertebrate Biology, Microbiology, Molecular Biology, Neuroscience, Paleontology, Physiology, Physiological Development Biology, Systematics and Evolution Biology, Zoology

Natural Resource Sciences:
Agriculture, Agricultural Biotechnology, Conservation, Earth Sciences, Ecology, Environmental Science, Environmental Geology, Forestry, Geography, Geology, Geophysics, Nutrition and Food

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[1] These programs are for graduates completing a Bachelor of Arts Degree.
[2] These programs are for graduates completing a Bachelor of Science Degree.

Undergraduate Professional

Business/Commerce:
Administration, Commerce, Management (including Hotel and Restaurant Management)

Education:
Education (Elementary, Secondary and Adult) , Community Rehabilitation

Physical Education/Kinesiology:
Physical Education, Kinesiology, Recreation Administration, Recreation and Leisure, Community Rehabilitation, Adventure Counselling, Exercise and Health, Biomechanics

Engineering:
Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Engineering Physics, Geomatics Engineering, Manufacturing Engineering, Material Engineering, Metallurgical Engineering, Mechanical Engineering, Mining Engineering, Petroleum Engineering

Nursing:
Nursing, Community Healthcare

Other Health Professions:
Dental Hygiene, Occupational Therapy, Pharmacy, Physical Therapy, Medical Laboratory

Social Work:
Social Work, Addictions Counseling

Professional 2nd Degree

Law:
Law

Medicine/Dentistry:
Doctor of Medicine, Doctor of Dental Surgery

Graduate Degree

Master of Arts:
Master of Arts, Master of Communications, Master of Design, Master of Economics, Master of Environmental Design, Master of Fine Arts, Master of Kinesiology, Master of Music, Master of Laws

Master of Education:
Master of Continuing Education, Master of Distance Education, Master of Education, Master of Library and Information Science

Master of Science/Master of Engineering:
Master of Architecture, Master of Agriculture, Master of Engineering, Master of Forestry, Master of Science, Master of Speech-Language Pathology

Master of Business Administration:
Master of Business Administration

Master of Social Work/Master of Nursing:
Master of Social Work, Master of Nursing

PhD:
All Phd Degrees

APPENDIX 3: SUPPLEMENTARY TABLES

Appendix Table 1: Field of Study Sub-samples; 2000 and 1998 Graduates Compared

Field of Study[2]	2000 N	2000 %	1998[1] N	1998[1] %
TOTAL	**7566**	**100**	**7213**	**100**
Undergraduate Arts & Science	***2852***	***38***	***2683***	***38***
Fine & Performing Arts	214	3	195	3
Social Sciences	1031	14	902	13
Humanities	392	5	389	5
Math/Physical Sciences	405	5	356	5
Biological Sciences	433	6	493	7
Natural Resource Sciences	377	5	348	5
Undergraduate Professional	***3312***	***44***	***3264***	***46***
Business/Commerce	980	13	861	12
Education	1058	14	1212	17
Phys.Ed/Kinesiology	230	3	209	3
Engineering	435	6	390	6
Nursing	363	5	332	5
Other Health Professions	160	2	166	2
Social Work	86	1	94	1
Professional 2nd Degree	***191***	***3***	***218***	***3***
Law	100	1	112	2
Medicine/Dentistry	91	1	106	2
Graduate Degree	***1159***	***15***	***990***	***14***
M.A.	165	2	148	2
M.Ed.	260	4	214	3
M.Sc./M.Eng.	294	4	277	4
M.B.A.	211	3	139	2
M.S.W./M.Nursing	44	1	47	1
Ph.D.	185	3	165	2

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey and 2000 Alberta Universities and University Colleges' Graduate Employment Survey

[1] The 1998 sample of graduates includes 14 respondents from Nazarene University College.

[2] 52 cases excluded for *2000 graduates* and 58 cases excluded for *1998 graduates* because information needed to determine 'field of study' was not provided.

Appendix Table 2: Participation in Co-op Program[1] by Field of Study

Field of Study	Percent		
	Total in Co-op Program	Full-time	Part-time
TOTAL	**32**	**23**	**9**
Undergraduate Arts & Science	***12***	***8***	***4***
Fine & Performing Arts	16	7	9
Social Sciences	10	5	5
Humanities	8	3	5
Math/Physical Sciences	24	22	2
Biological Sciences	7	6	1
Natural Resource Sciences	11	6	5
Undergraduate Professional	***56***	***42***	***14***
Business/Commerce	17	15	2
Education	90	69	21
Phys.Ed/Kinesiology	33	25	8
Engineering	44	43	1
Nursing	75	37	38
Other Health Professions	81	64	17
Social Work	98	52	46
Professional 2nd Degree	***24***	***20***	***4***
Law	3	1	2
Medicine/Dentistry	47	41	6
Graduate Degree	***18***	***9***	***9***
M.A.	8	2	6
M.Ed.	19	7	12
M.Sc./M.Eng.	21	10	11
M.B.A.	13	10	3
M.S.W./M.Nursing	72	36	36
Ph.D.	13	6	7

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Based on responses to the question: "Were you enrolled in a co-op education, practicum, or other type of work or field experience program that involved alternating periods of work (paid or unpaid) on a job-site with periods of in-class study?"

Appendix Table 3: Satisfaction with Relevance of Courses, Quality of Teaching, and Overall Educational Experience by Field of Study

Field of Study	Percent Satisfied[1]		
	Relevance of Courses	Quality of Teaching	Overall Quality of Experience
TOTAL	**67**	**76**	**81**
Undergraduate Arts & Science	***65***	***78***	***81***
Fine & Performing Arts	72	81	83
Social Sciences	63	78	80
Humanities	70	83	83
Math/Physical Sciences	66	74	84
Biological Sciences	63	73	82
Natural Resource Sciences	63	78	78
Undergraduate Professional	***63***	***73***	***80***
Business/Commerce	72	75	85
Education	54	73	75
Phys.Ed/Kinesiology	57	76	76
Engineering	68	66	81
Nursing	56	70	73
Other Health Professions	79	86	91
Social Work	68	67	73
Professional 2nd Degree	***83***	***83***	***84***
Law	78	84	84
Medicine/Dentistry	89	82	85
Graduate Degree	***80***	***79***	***85***
M.A.	79	79	85
M.Ed.	79	84	84
M.Sc./M.Eng.	74	78	83
M.B.A.	89	81	90
M.S.W./M.Nursing	77	73	77
Ph.D.	82	75	83

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Respondents answered on a five-point scale with '1' representing "*very dissatisfied*" and '5' representing "*very satisfied*". Scores of '4' and '5' are combined and presented in this table.

Appendix Table 4: Perceived Benefits of Post-secondary Program by Field of Study

Field of Study	Percent[1]		
	Opportunity to Improve Yourself	Desire to Continue Learning	Improved Chances of a Good Income
TOTAL	**81**	**79**	**63**
Undergraduate Arts & Science	***82***	***80***	***46***
Fine & Performing Arts	85	81	33
Social Sciences	83	78	43
Humanities	87	85	35
Math/Physical Sciences	76	76	61
Biological Sciences	75	79	45
Natural Resource Sciences	84	82	62
Undergraduate Professional	***79***	***77***	***73***
Business/Commerce	81	77	78
Education	80	75	63
Phys.Ed/Kinesiology	81	78	31
Engineering	71	73	91
Nursing	81	81	83
Other Health Professions	86	86	91
Social Work	79	84	76
Professional 2nd Degree	***76***	***80***	***95***
Law	74	71	93
Medicine/Dentistry	78	89	98
Graduate Degree	***86***	***82***	***67***
M.A.	87	89	56
M.Ed.	89	81	73
M.Sc./M.Eng.	83	80	64
M.B.A.	89	78	77
M.S.W./M.Nursing	91	77	75
Ph.D.	83	87	62

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Respondents answered on a five-point scale with '1' representing "*not at all*" and '5' representing "*to a great extent*". Scores of '4' and '5' are combined and presented in this table.

Appendix Table 5: Job Satisfaction by Field of Study
Current Non-students Only

Field of Study	Percent[1]						
	Overall Satisfaction	Satisfaction with Pay	Satisfaction with Benefits	Advancement Opportunities	Decision-Making Opportunities	Skill/Ability Development Opportunities	Opportunities for Interesting Work
TOTAL	**77**	**56**	**66**	**59**	**74**	**75**	**77**
Undergraduate Arts & Science	***67***	***50***	***56***	***54***	***67***	***66***	***66***
Fine & Performing Arts	64	46	33	43	62	65	64
Social Sciences	64	48	60	55	67	68	67
Humanities	64	46	48	47	64	59	58
Math/Physical Sciences	72	61	68	59	69	66	71
Biological Sciences	66	40	58	49	64	63	62
Natural Resource Sciences	70	54	54	59	74	67	68
Undergraduate Professional	***79***	***55***	***70***	***60***	***74***	***78***	***79***
Business/Commerce	74	57	68	68	71	72	71
Education	80	37	72	52	72	79	85
Phys.Ed/Kinesiology	70	44	50	51	69	76	71
Engineering	81	73	73	70	78	75	77
Nursing	90	83	78	64	82	87	88
Other Health Professions	87	83	72	57	87	80	76
Social Work	77	54	71	51	75	82	88
Professional 2nd Degree	***92***	***80***	***64***	***89***	***87***	***92***	***93***
Law	90	81	69	90	83	89	92
Medicine/Dentistry	97	77	52	85	97	100	94
Graduate Degree	***83***	***63***	***69***	***62***	***81***	***80***	***87***
M.A.	84	61	57	61	81	83	86
M.Ed.	85	59	76	64	80	81	88
M.Sc./M.Eng.	80	62	65	53	74	74	84
M.B.A.	80	71	77	66	80	80	86
M.S.W./M.Nursing	95	68	77	78	98	80	90
Ph.D.	85	59	62	63	87	84	90

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Respondents answered on a five-point scale with '1' representing "*very dissatisfied*" and '5' representing "*very satisfied.*" Scores of '4' and '5' are combined and presented in this table.

Appendix Table 6: 'Easy' Adjustment to the Work Force[1] by Field of Study

Current Non-students Only (N=4853)[2]

Field of Study	Percent[3]
TOTAL	**77**
Undergraduate Arts & Science	***70***
Fine & Performing Arts	52
Social Sciences	72
Humanities	63
Math/Physical Sciences	75
Biological Sciences	72
Natural Resource Sciences	74
Undergraduate Professional	***78***
Business/Commerce	77
Education	75
Phys.Ed/Kinesiology	73
Engineering	83
Nursing	78
Other Health Professions	82
Social Work	84
Professional 2nd Degree	***76***
Law	76
Medicine/Dentistry	76
Graduate Degree	***87***
M.A.	83
M.Ed.	94
M.Sc./M.Eng.	87
M.B.A.	87
M.S.W./M.Nursing	97
Ph.D.	81

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] This question was not asked of Athabasca University Graduates.

[2] Seventy-four respondents reported that they were "*still adjusting*" and 343 volunteered that "*no adjustment was required*" (i.e. since they always worked at a job). These respondents are excluded from the analysis.

[3] Based on responses to the question: "Since graduating in 1999/2000, how would you rate your adjustment from university/university college to the work force?" Categories '3' representing "*somewhat easy*" and '4' representing "*very easy*" are combined and presented in this table.

Appendix Table 7: Use of Skills, Knowledge, and Ability on the Job by Field of Study
Current Non-students Only

Field of Study	Percent[1]								
	Speaking Skills	Writing Skills	Problem-solving Skills	Creative-thinking Skills	Computer Skills	Info. Mngt. Skills	Work Independently	Work with Others	Ethical Awareness
TOTAL	**86**	**72**	**90**	**80**	**70**	**75**	**92**	**92**	**81**
Undergraduate Arts & Science	***79***	***61***	***84***	***73***	***67***	***73***	***90***	***88***	***71***
Fine & Performing Arts	80	55	81	81	52	67	93	86	64
Social Sciences	84	68	84	73	65	74	88	87	78
Humanities	82	66	81	70	62	75	91	86	71
Math/Physical Sciences	66	51	89	79	86	77	92	90	59
Biological Sciences	74	49	81	63	62	62	86	88	70
Natural Resource Sciences	78	60	86	70	71	74	90	90	73
Undergraduate Professional	***88***	***73***	***92***	***81***	***70***	***76***	***92***	***94***	***85***
Business/Commerce	81	66	88	71	86	76	91	91	76
Education	97	84	94	93	67	77	91	95	92
Phys.Ed/Kinesiology	87	55	85	80	46	66	87	92	82
Engineering	70	60	92	73	90	77	92	93	71
Nursing	93	84	97	81	41	72	94	98	97
Other Health Professions	96	67	99	75	56	76	98	97	98
Social Work	91	81	91	88	54	80	94	97	97
Professional 2nd Degree	***93***	***85***	***98***	***83***	***55***	***74***	***92***	***89***	***94***
Law	93	97	98	82	59	73	93	86	91
Medicine/Dentistry	91	54	100	86	46	74	89	97	100
Graduate Degree	***89***	***87***	***94***	***91***	***79***	***79***	***95***	***92***	***83***
M.A.	94	96	95	93	76	80	97	91	86
M.Ed.	96	93	95	95	82	88	95	95	96
M.Sc./M.Eng.	80	74	90	84	80	72	93	89	75
M.B.A.	86	84	93	90	85	77	92	92	73
M.S.W./M.Nursing	93	90	100	93	60	68	98	98	95
Ph.D.	89	89	96	94	76	79	97	89	83

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Respondents were asked to assess the extent to which they used these skills in their current job on a five-point scale with '1' representing "*not at all*" and '5' representing "*to a great extent.*" Scores of '4' and '5' are combined and presented in this table.

Appendix Table 8: Labour Market Outcomes and Evaluations by Current Student Status/Type

		Technical Institute/ Community College/ Other		University Undergraduate		University Graduate/Professional School/Certificate	
	Non-student (5649)	Part-time (46)	Full-time (64)	Part-time (111)	Full-time (395)	Part-time (283)	Full-time (979)
Labour Market Outcomes							
Employment Rate	97	96	84	96	70	98	64
Unemployment Rate	4	2	24	4	28	2	19
Self-Employed	7	7	7	5	9	9	8
Temporary Job	19	16	49	35	54	16	63
Part-time Job[1]	8	14	73	17	76	13	55
Multiple Jobs	13	16	10	12	15	16	14
Occupation[2]							
Managerial	11	7	0	6	6	14	5
Professional	64	66	24	39	24	67	70
Technical/Paraprofessional/ Skilled	15	7	20	26	27	13	12
Semi-skilled/Unskilled	10	20	56	29	43	7	13
Mean Yearly Income (all jobs)	$43,575	$40,520	$16,400	$33,240	$15,480	$52,135	$25,420
Evaluations of Labour Market Experience							
'Difficult' Adjustment to Labour Force	24	24	29	21	23	46	53
Job Not Related to Program of Study	26	45	77	20	27	38	58
Earn Less than Deserve	50	44	59	66	64	49	52
Over-qualified for Job	26	23	76	50	63	28	28
Dissatisfied with Job Overall	8	7	17	14	25	6	7

Source: 2002 Alberta Universities and University Colleges' Graduate Employment Survey

[1] Part-time includes graduates who are working less than 30 hours per week in their main job.

[2] Occupational Categories are based on 4-digit National Occupation Classification (NOC) codes.